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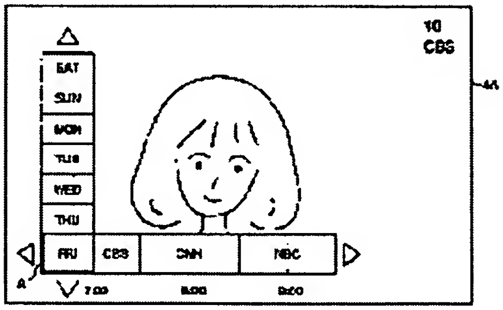
(54) PROGRAM SELECTION SYSTEM

(57)Abstract:

PURPOSE: To speedily and surely select a desired program out of comparatively frequently watched programs by displaying days of the week on one axis of a screen, displaying a time base on the other axis, and displaying the programs corresponding to the history of reception along the time base.

CONSTITUTION: The history of reception in the past is stored, the days of the week are displayed on one of the horizontal and vertical axes of the screen, and the time base is displayed on the other axis. Then, the programs corresponding to the stored history of reception are displayed along the time base. For example, the days of the week are successively vertically displayed from up to down near the left side terminal part of the screen. The clay of the week of that day is displayed at the bottom. Further, the time base is laterally horizontally displayed from left to right near the downside terminal part of the screen. The desired program can be speedily and surely selected and designated out of the comparatively frequently watched programs by an up operation, down operation, left operation or right operation.



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CLAIMS

[Claim(s)]
[Claim 1] While displaying a day of the week on one shaft orientation of a storage means to memorize the past receiving hysteresis, the horizontal shaft of a screen, and the vertical shafts and displaying a time-axis on the shaft orientation of another side The display-control means on which the program corresponding to said receiving hysteresis memorized by said storage means is displayed along with said time-axis, The program selected system characterized by having a day-of-the-week selection means to choose the day of the week displayed on one [said] shaft, a program selection means to choose the program displayed along with said time-axis, and a program decision means to decide the selected program.
[Claim 2] Said display-control means is a program selected system according to claim 1 characterized by displaying a program only about the selected day of the week.
[Claim 3] Said display-control means is a program selected system according to claim 2 characterized by only the selected thing displaying a day of the week.
[Claim 4] Said day-of-the-week selection means, a program selection means, and a program decision means are a program selected system according to claim 1, 2, or 3 characterized by the operational thing with one finger.
[Claim 5] Said display-control means is a program selected system according to claim 1 to 4 characterized by displaying said day of the week at right angles to the direction of [lower] from a top, and displaying said program in the direction of the right horizontally from the left.
[Claim 6] Said display-control means is a program selected system according to claim 5 characterized by moving said cursor to a longitudinal direction and making it move to the location corresponding to a predetermined program when the day of the week of the location corresponding to said cursor is made to change at other days of the week when the cursor which specifies said program is displayed further and said day-of-the-week selection means is operated, and said program selection means is operated.
[Claim 7] Said display-control means is a program selected system according to claim 6 characterized by making the program of the location corresponding to said cursor change into the program of the following frequency in the condition that said cursor is displayed corresponding to the predetermined program when said day-of-the-week selection means is operated.

[Claim 8] Said display-control means is a program selected system according to claim 1 to 7 characterized by displaying said program by the broadcasting station name which is broadcasting said program.
[Claim 9] Said display-control means is a program selected system according to claim 1 to 7 characterized by displaying said program under the name of said program.
[Claim 10] Said display-control means is a program selected system according to claim 1 to 9 characterized by displaying further the list of candidates of a device who record on videotape said program chosen as said day of the week and parallel.
[Claim 11] The list of candidates of a device who record said program on videotape is a program selected system according to claim 10 characterized by including the candidate who chooses it only as the case of watching the program which was not recorded on videotape but was only chosen.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention is used for the television receiver which receives the signal transmitted through a broadcasting satellite, and relates to a suitable program selected system.
[0002]
[Description of the Prior Art] In the television receiver, a predetermined broadcast channel is chosen based on the figure corresponding to a broadcast channel, and it is made as [listen / to the program currently broadcast by the broadcast channel / it / view and].
[0003] Moreover, when a desired program is reserved and the time of day comes by specifying a broadcast channel as a predetermined date or a day of the week, time of day, and a list, there is also a television receiver currently made as [listen / to the program / it / view and].
[0004] Furthermore, in the video tape recorder having a video tuner, it is too made as [do / a predetermined program / the so-called thing / making timed recording] by specifying a broadcast channel as predetermined time or a day of the week, time of day, and a list.
[0005] However, in such conventional equipment, although a desired program is chosen, selection assignment of a date or a day of the week, time of day, the broadcast channel, etc. must be carried out each time, and operability is bad and it is difficult [it] to choose and specify the program which he comparatively often watches quickly and certainly.
[0006] Then, as JP,4-68620,A, these people learn the channel selection data for for example, past 1 week, memorize this, and proposed receiving a predetermined broadcast channel automatically previously corresponding to the channel selection data which read and read the channel selection data at the time of power-source ON.
[0007]

[Problem(s) to be Solved by the Invention] However, in such equipment proposed previously, although the received high broadcast channel of frequency was received automatically, since the broadcast channel was not always received, when tuning in a different broadcast channel from the received broadcast channel, the technical problem to which actuation becomes troublesome on the contrary occurred.

[0008] On the other hand, in the U.S., high-efficiency-coding techniques, such as MPEG (Moving Picture Expents Group), are applied, and many channelization of broadcast is advancing in recent years in cable television (CATV:Cable Television), digital satellite broadcasting service (DSS:Digital Satellite System (trademark of s company of HughesCommunication(s))), etc. With these many channelization, the number of channels was set also to 150-175, the actuation which chooses a desired program out of these also became complicated, and solution was desired that operability should be made easy.

[0009] This invention is made in view of such a situation, and a desired program is chosen and it enables it to specify it quickly and certainly out of the program which he comparatively often watches.

[0010]

[Means for Solving the Problem] A storage means by which the program selected system of this invention memorizes the past receiving hysteresis (for example, EEPROM38 of drawing 3), While displaying a day of the week on one shaft orientation of the horizontal shaft of a screen, and the vertical shafts and displaying a time-axis on the shaft orientation of another side The display-control means on which the program corresponding to the receiving hysteresis memorized by the storage means is displayed along with a time-axis (for example, CPU29 of drawing 3), A day-of-the-week selection means to choose the day of the week displayed on one shaft (for example, handler 52 which operates [rise-] or operates [down-] drawing 4), It is characterized by having a program selection means (for example, handler 52 which operates [left-] or operates [light-] drawing 4) to choose the program displayed along with the time-axis, and a program decision means (for example, handler 52 by which ENTA actuation of drawing 4 is carried out) to decide the selected program.

[0011] although the program was displayed only about the selected day of the week (for example, display of drawing 19) or the day of the week was chosen, it sees and is made to display on a display-control means (for example, display of drawing 32) -- it can be made like.

[0012] Moreover, said day-of-the-week selection means, a program selection means, and a program decision means can be made operational with one finger (for example, handler 52 of drawing 4).

[0013] A day of the week is displayed on a display-control means at right angles to the direction of [lower] from a top, and a program can be horizontally displayed in the direction of the right from the left (for example, display of drawing 19).

[0014] When the cursor (for example, cursor A of drawing 19) which specifies a program is further displayed on a display-control means and a day-of-the-week selection means is operated, When the day of the week of the location corresponding to cursor is made to change at other days of the week (for example, display of drawing 19 thru/or drawing 21) and a program selection means is operated, cursor is moved to a longitudinal direction and it can be made to be able to move to the location corresponding to a predetermined program (for example, display of drawing 23 thru/or drawing 27).

[0015] When a day-of-the-week selection means is operated (for example, rise actuation or down actuation of the handler 52 of drawing 4), the program of the location corresponding to cursor can be made to be able to change into the program of the following frequency in the condition (for example, display of drawing 24) that cursor is displayed on the display-control means corresponding to the predetermined program (for example, display of drawing 28 and drawing 29).

[0016] Moreover, a program can be displayed under the name of the broadcasting station name (for example, display of drawing 19) which is broadcasting the program, or a program (it displays on drawing 33).

[0017] furthermore, the list of candidates of a device who record on videotape the program chosen as a day of the week and parallel is further displayed on a display-control means (for example, display of drawing 30) -- it can be made like.

[0018] In this case, it does not record on the list of candidates of a device who record a program on videotape on videotape, but the candidate (for example, WATCH of drawing 30) who chooses it only as the case of watching the only chosen program can be included in it.

[0019]

[Function] In the program selected system of the above-mentioned configuration, the hysteresis about the program received in the past is memorized by EEPROM38. And corresponding to this hysteresis, a program is displayed on a monitoring device. Therefore, it becomes possible to carry out selection assignment of the desired program out of the program which he watches quickly and certain comparatively well.

[0020]

[Example] Drawing 1 shows the example of AV (Audio Video) structure of a system adapting the program selected system of this invention. In the case of this example, the AV system 1 is constituted by VCR (Video Cassette Recorder)6 of a VHS method besides IRD (Integrated Receiver/Decoder)2 which restores to the signal received through the broadcasting satellite which is not illustrated with a parabolic antenna 3, VCR7 of 8mm method, the multiple disk player (MDP:Muti-Disc Player) 8, mini disc (MD:Mini Disc) equipment 9, and the monitoring device 4.

[0021] VCR6, VCR7, MDP8, and MD equipment 9 are connected with the monitoring device 4 by AV Rhine 11, respectively. Moreover, IRD2 is connected to VCR6 by AV Rhine 11. Furthermore, each of these equipments are connected one by one to series by the control line 12.

[0022] To IRD2, it is made as [input / with an infrared (IR:Infrared) signal / by the remote commander 5 / a command]. That is, if the predetermined thing of the button switch 50 of a remote commander 5 is operated, it is made as [carry out / outgoing radiation of the infrared signal corresponding to it is carried out from IR dispatch section 51, and / signal / to the IR receive section 39 of IRD2 / incidence].

[0023] In addition, the front panel 40 which has various kinds of actuation button switches is established in this IRD2, and it is made as [carry out / the direct input of the same command as the command emitted by operating a remote commander 5].

[0024] Drawing 2 expresses the electrical installation condition of the AV system 1 of drawing 1 . A parabolic antenna 3 has LNB(Low Noise Block downconverter)3a, changes the signal from a broadcasting satellite into the signal of a predetermined frequency, and supplies it to IRD2. IRD2 supplies the output to VCR6 through AV Rhine 11 constituted by three lines. The output of VCR6 is supplied to the monitoring device 4 by AV Rhine 11 constituted by three lines. Moreover, VCR7, MDP8, and the MD player 9 are connected by 6, 3, or four AV(s) Rhine 11 to the monitoring device 4, respectively.

[0025] Furthermore, IRD2, VCR6, VCR7, MDP8, MD equipment 9, and a monitoring device 4 have the AV equipment control signal transceiver sections 2A, 6A, 7A, 8A, 9A, and 4A, respectively. Sequential connection of these is made by the control line 12 which consists of a wye yard SIRCS (Wired Sony Infrared Remote Control System) at series.

[0026] Drawing 3 shows the example of a configuration inside [for receiving DSS mentioned above] IRD2. The RF signal outputted from LNB3a of a parabolic antenna 3 is supplied to the tuner 21 of a front end 20, and gets over. The output of a tuner 21 is supplied to the QPSK demodulator circuit 22, and a QPSK recovery is carried out. The error correction circuit 23 is supplied, an error is detected and corrected, and the output of the QPSK demodulator circuit 22 is amended if needed.

[0027] The key required to decode a code is stored in CAM (Conditional Access Module)33 constituted with the IC card which consists of CPU, a ROM, RAM, etc. with the decode program. Since the signal transmitted through a broadcasting satellite is enciphered, a key and decode processing are needed for decoding this code. Then, this key is read from CAM33 through the card reader interface 32, and a demultiplexer 24 is supplied. A demultiplexer 24 decodes the enciphered signal using this key.

[0028] In addition, accounting information besides a key required for decryption and a decode program etc. is stored in this CAM33.

[0029] A demultiplexer 24 receives the input of the signal which the error correction circuit 23 of a front end 20 outputs, supplies the decoded video signal to the MPEG video decoder 25, and supplies the decoded audio signal to the MPEG audio decoder 26.

[0030] The MPEG video decoder 25 makes DRAM25a memorize the inputted digital video signal suitably, and performs decoding of the video signal compressed by the MPEG method. The decoded video signal is supplied to the NTSC encoder 27, and is changed into the luminance signal (Y) of NTSC system, a chroma signal (C), and a composite signal (V). A luminance signal and a chroma signal are outputted as an S video signal through the buffer amplifier 28Y and 28C, respectively. Moreover, a composite signal is outputted through buffer amplifier 28V.

[0031] The MPEG audio decoder 26 makes DRAM26a memorize suitably the digital audio signal supplied from the demultiplexer 24, and performs decoding of the audio signal compressed by the MPEG method. In D/A converter 30, D/A conversion of the decoded audio signal is carried out, the audio signal of a left channel is outputted through buffer amplifier 31L, and the audio signal of a right channel is outputted through buffer amplifier 31R.

[0032] RF modulator 41 changes and outputs the composite signal which the NTSC encoder 27 outputs, and the audio signal which D/A converter 30 outputs to a RF signal. Moreover, this RF modulator 41 carries out through [of the RF signal of the NTSC system inputted from other AV equipments], and outputs it to other AV equipments as it is.

[0033] In the case of this example, these video signals and audio signals will be supplied to VCR6 through AV Rhine 11.

[0034] CPU (Central Processor Unit)29 performs various kinds of processings according to the program memorized by ROM37. For example, a tuner 21, the QPSK demodulator circuit 22, the error correction circuit 23, etc. are controlled. Moreover, AV equipment control signal transceiver section 2A is controlled, and a predetermined control signal is outputted to other AV equipments through the control line 12, and the control signal from other AV equipments is received.

[0035] To this CPU29, the actuation button switch (not shown) of the front panel 40 can be operated, and the direct input of the predetermined command can be carried out. Moreover, if a remote commander 5 is operated, an infrared signal will be outputted from IR dispatch section 51, this infrared signal will be received by the IR receive section 39, and a light-receiving result will be supplied to CPU29. Therefore, a predetermined command can be inputted into CPU29 also by operating a remote commander 5.

[0036] Moreover, CPU29 incorporates the video signal which a demultiplexer 24 outputs and signals other than an audio signal, for example, EPG (Electrical Program Guide) information etc., creates EPG data after this, and SRAM (Static Radom Access Memory)36 is made to supply and memorize it. EPG information includes the information (for example, the channel of a program, broadcasting hours, a title, a category, etc.) about the program of each broadcast channel of a dozens of hours after [current time]. Since this EPG information is transmitted frequently, it can always hold the newest EPG to SRAM36.

[0037] The data (for example, receiving hysteresis for 4 week of a tuner 21) which want to hold after power-source off are suitably memorized by EEPROM (Electrically Erasable Programable Read Only Memory)38. Moreover, CPU29 compares the time information which the calender timer 35 outputs with the time stump which a demultiplexer 24 separates and outputs from an input signal, and controls the MPEG video decoder 25 and the MPEG audio decoder 26 possible [decoding] to right timing corresponding to the comparison result.

[0038] Furthermore, CPU29 controls the MPEG video decoder 25 to generate predetermined OSD

(On-Screen Display) data. The MPEG video decoder 25 generates predetermined OSD data corresponding to this control, writes them in DRAM25a, is read further and outputted. Thereby, a predetermined alphabetic character, a graphic form, etc. can be suitably outputted and displayed on a monitoring device 4.

[0039] Drawing 4 shows the more detailed example of a configuration of the button switch 50 of a remote commander 5. As shown in this drawing, a remote commander 5 equips the lower part with the handler 52 while equipping the upper part with IR dispatch section 51. This handler 52 is made as [operate / in any one direction / it / among a total of eight directions of the direction of four directions of slant besides the direction of four directions]. Moreover, this handler 52 is pressed in the direction perpendicular to space, and is made as [make / it / to function as an ENTA (ENTER) button switch]. That is, this handler 52 chooses a direction with one finger, and is made as [perform / further / one finger / an ENTA input], without lifting a finger as it is.

[0040] The menu button switch 53 is arranged at the lower right direction of this handler 52. This menu button switch 53 is operated when displaying a menu screen on a monitoring device 4. The escape (ESC) button switch 54 operated when returning processing to the left-hand side of the menu button switch 53 is arranged.

[0041] Hereafter, although explanation is omitted, in addition to this, various kinds of actuation button switches are formed as a button switch 50.

[0042] Drawing 5 thru/or drawing 9 express the example of a configuration for detecting actuation of a handler 52. The small stick controller shown in this drawing 5 is the interior of a remote commander 5, and is arranged under the handler 52. That is, the stick 61 is combined with the handler 52 currently formed with the resin which has flexibility in one. Therefore, corresponding to the actuation direction, actuation of a handler 52 makes the stick 61 as [move / perpendicularly], as it moves in any one direction of [of the eight directions shown by the arrow head a] in drawing 5 or an arrow head b shows.

[0043] Under the stick 61, the pin 105 is implanted perpendicularly, and the edge of this pin 105 is inserted in the hole 104 currently formed in the guide plate 103 of the outside object 101, and is made as [guide]. It is combined with the guide plate 103 which points to Y shaft orientations in one by the outside [this] object 101, and the side plate 102 which points to X shaft orientations is formed in it. And the shaft 62 elongated to X shaft orientations is implanted in this side plate 102.

[0044] On the other hand, the stick 61 is inserted in hole 114A formed in the bottom plate 114 of a corpus 111 so that a corpus 111 may be arranged inside the outside object 101. This hole 114A is a hole long to Y shaft orientations, as shown in drawing 9 . And a side plate 112 is formed, and compared with the side plate 112, the joint plate 113 with low height is formed in Y shaft orientations at the bottom plate 114 of this corpus 111 so that it may counter mutually, so that X shaft orientations may be countered. And the shaft 63 elongated to Y shaft orientations is implanted in this joint plate 113. The hole 104 currently formed in the guide plate 103 of the outside object 101 is formed on the radii centering on this shaft 63.

[0045] The small stick controller as shown in drawing 6 thru/or drawing 9 is arranged inside the box 116, as shown in drawing 5 , and shafts 62 and 63 are made as [extend / from the holes 118 and 119 formed in the box 116, respectively / outside]. A hole 119 is almost equal to the path of a shaft 63, or the hole 118 is a long hole from it to considering as the large path a little at Z shaft orientations. And a variable resistor 64 is arranged and the switch 66 of a push button mold is arranged under the other-end section on the outside of this box 116 so that it may combine with one edge of a shaft 62. Moreover, a variable resistor 65 is arranged and it is combined with the shaft 63 by the outside of Y shaft orientations of a box 116.

[0046] If the X-axis is rotated for a stick 61 as a core, the outside object 101 combined with the guide plate 103 through the pin 105 will rotate a shaft 62 (X-axis) as a core. Since long hole 114A is formed in Y shaft orientations at the bottom plate 114 of a corpus 111 at this time, the corpus 111 is in the condition [having stood it still].

[0047] On the other hand, if a Y-axis is rotated for a stick 61 as a core, since hole 114A currently formed in the bottom plate 114 is formed in the path almost same to X shaft orientations as a stick 61, a corpus 111 will rotate a shaft 63 (Y-axis) as a core with rotation of a stick 61. At this time, a pin 105 is guided with the hole 104 currently formed on the radii centering on a shaft 63. Moreover, since the side plate 112 of a corpus 111 has distance sufficient between the side plates 102 of the outside object 101 at this time, a side plate 102 is not contacted. Therefore, the outside object 101 is in the condition [having stood it still].

[0048] If a stick 61 is operated in the direction of [between the X-axis and a Y-axis], while a corpus 111 will rotate a Y-axis as a core, the outside object 101 rotates the X-axis as a core.

[0049] Since the zero return spring 106 is combined with the lower limit of a stick 61, if the rotation actuation to a stick 61 is stopped, according to the energization force of this zero return spring 106, a stick 61 will return to a zero (vertical position).

[0050] If the X-axis is rotated for a stick 61 as a core, in order that a shaft 62 may rotate the X-axis as a core, the resistance of a variable resistor 64 changes. Therefore, the amount of rotation and the rotation direction of a stick 61 centering on the X-axis are detectable from the resistance of this variable resistor 64.

[0051] Moreover, if a Y-axis is rotated for a stick 61 as a core, in order that a shaft 63 may rotate a Y-axis as a core, the resistance of a variable resistor 65 changes. Therefore, the amount of rotation and the rotation direction of a stick 61 centering on a Y-axis are detectable from the resistance of this variable resistor 65.

[0052] Thus, in drawing 5 , the actuation (actuation to a horizontal direction) to any one direction of [of the eight directions shown by the arrow head a] is detected.

[0053] If a stick 61 is perpendicularly pressed downward along with an arrow head b in drawing 5 , since the stick 61 is inserted in hole 114A of a bottom plate 114, a corpus 111 does not carry out especially change, but since the pin 105 which implanted the outside object 101 in the stick 61 is inserted in the guide plate 103 through the hole 104, it will be pressed downward in one with a stick 61. The outside at this time, since the hole 118 of the box 116 in which the shaft 62 is inserted is used as the perpendicularly long hole, the migration to down [of the body 101] is guided with this hole 118. When a shaft 62 descends to a position, a part of shaft 62 presses a switch 66. Thereby, a switch 66 turns on or turns off and the press actuation to down [of a stick 61] is detected. And a termination of the press actuation to the lower part to a stick 61 returns a stick 61 to an upper home position according to the energization force of the return spring which was built in the switch 66 and which is not illustrated.

[0054] Drawing 10 expresses the example of a configuration of the circuit inside a remote commander 5. The microcomputer (microcomputer) 71 has RAM74 which CPU72 and CPU72 which perform various kinds of processings according to the program memorized by ROM73 and ROM73 which memorize a program perform various kinds of processings upwards, and memorizes required data etc. suitably. The button switch matrix 82 is connected to this microcomputer 71, and it is made as [detect / it / whether which button switch of the button switch 50 shown in drawing 4 was operated].

[0055] A/D converter 77 carries out A/D conversion of the resistance (it corresponds to rotation centering on the X-axis of a stick 61) of a variable resistor 64, and is made as [output / to a microcomputer 71]. Moreover, A/D converter 78 carries out A/D conversion of the resistance (it corresponds to rotation centering on the Y-axis of a stick 61) of a variable resistor 65, and is made as [output / to a microcomputer 71]. Furthermore, ON of a switch 66 or the signal (it corresponds to the actuation to the perpendicular direction of a stick 61) of OFF is made as [supply / a microcomputer 71].

[0056] Moreover, through the LED driver 75, a microcomputer 71 drives LED76 of IR dispatch section 51, and is made as [generate / an infrared signal].

[0057] Drawing 11 shows the example of a configuration inside VCR7. Video / audio signal processing circuit 96 processes the output of the tuner 93 inputted through the contact b of a switch 94, outputs it to the record playback block 97, and is made as [make / it / record on the magnetic tape to build in through a head amplifier 98]. Moreover, a predetermined video signal and a predetermined audio signal are inputted into an input terminal (LINE IN) 91 through AV Rhine 11, and it is made as [input / into video / audio signal processing circuit 96] through the contact a of a switch 94. Therefore, the signal inputted through AV Rhine 11 when it is controlled by the microcomputer 99 and the switch 94 is switched to Contact a side is supplied to the record playback block 97, and is made as [record / on the magnetic tape to build in].

[0058] Moreover, when a microcomputer 99 sets up a playback mode, the magnetic tape which the record playback block 97 builds in is played, and the regenerative signal is outputted to video / audio signal processing circuit 96 through a head amplifier 98. Video / audio signal processing circuit 96 outputs this inputted signal to an output terminal (LINE OUT) 92 through the contact a of a switch 95. Since AV Rhine 11 is connected to this output terminal 92, a video signal and an audio signal are supplied to a monitoring device 4 through this AV Rhine 11.

[0059] Moreover, a switch 95 is controlled by the microcomputer 99, and when switched to Contact b side, the video signal and audio signal which a switch 94 outputs will be outputted to AV Rhine 11 from an output terminal 92.

[0060] Various kinds of commands can be inputted into a microcomputer 99 by operating the actuation button switch (not shown) formed in the control panel 100. Moreover, actuation of the remote commander of the dedication which is not illustrated outputs an infrared signal from the remote commander. It is received by the IR receive section 101 and this infrared signal is supplied to a microcomputer 99 through the contact a of a switch 102.

[0061] Moreover, AV equipment control signal transceiver section 7A has the wye yard SIRCS receive section 103 and the wye yard SIRCS transmitting section 104. The control line 12 is connected to this wye yard SIRCS receive section 103 and the wye yard SIRCS transmitting section 104. If the control line 12 is connected to the wye yard SIRCS receive section 103, this connection will be detected by the switch (not shown) to build in and a switch 102 will be automatically switched to Contact b side by that detection output. Consequently, in this case, the output of the IR receive section 101 is not transmitted to a microcomputer 99, but only the output of the wye yard SIRCS receive section 103 comes to be transmitted to a microcomputer 99. Moreover, through a switch 102, the signal inputted into this wye yard SIRCS receive section 103 is transmitted to the wye yard SIRCS transmitting section 104, and is further transmitted to other AV equipments through the control line 12.

[0062] In addition, when a signal detector is established in the wye yard SIRCS receive section 103, this detector detects a signal, a switch 102 is switched to Contact b side and this detector does not detect a signal, By controlling to switch a switch 102 to Contact a side, it is also possible to enable it to control a microcomputer 99 not only by the control signal inputted through the control line 12 but by the control signal which the IR receive section 101 detects and is outputted.

[0063] Next, the actuation is explained. If the menu button switch 53 of a remote commander 5 is operated, the actuation will be detected by CPU72 through the button switch matrix 82. CPU72 controls LED76 through the LED driver 75, and outputs the infrared signal corresponding to this detection signal to IRD2 from IR dispatch section 51. When the input of this signal is received through the IR receive section 39, CPU29 of IRD2 controls the MPEG video decoder 25, and generates the data corresponding to a menu screen. This data is supplied to a monitoring device 4 through the NTSC encoder 27, and a menu screen as shown in a monitoring device 4 at drawing 12 is displayed.

[0064] In this example, the actuation pallet which has nine carbon button icons shown by the number 1 thru/or the number 9 is displayed. At this time, highlighting of the predetermined thing is carried out as cursor among nine carbon button icons. By the handler 52 of a remote commander 5, this cursor by which highlighting was carried out can be moved in the direction corresponding to that actuation by operating the direction of four directions. And in the condition of carrying out highlighting of the predetermined carbon button icon which wishes to choose, if ENTA actuation of the handler 52 of a remote commander 5 is carried out, CPU29 will perform processing assigned to the carbon button icon.

[0065] For example, if the carbon button icon of the General guide is chosen, CPU29 will control the MPEG video decoder 25, and will display the screen (screen of broadcast channel selection) of the General guide on a monitoring device 4. A user can do selection assignment of the predetermined program on this screen.

[0066] When ordered in reception of a predetermined program, CPU29 controls a tuner 21 and makes the broadcast channel receive. The output of a tuner 21 is supplied to the QPSK demodulator circuit 22, after a QPSK recovery is carried out, the error correction circuit 23 is supplied and error correction processing is performed.

[0067] A demultiplexer 24 decodes the signal which was supplied from the error correction circuit 23 and which is enciphered with reference to the key read from the card reader interface 32. And the decoded video signal is outputted to the MPEG video decoder 25, and an audio signal is outputted to the MPEG audio decoder 26.

[0068] The MPEG video decoder 25 decodes the inputted digital video signal which is encoded by the MPEG method, and outputs it to the NTSC encoder 27. The NTSC encoder 27 changes the inputted video signal into the video signal of NTSC system, and makes it output to a monitoring device 4 as S video signal or a composite video signal.

[0069] After the digital audio signal which similarly is encoded by the MPEG method inputted into the MPEG audio decoder 26 is decoded, by D/A converter 30, D/A conversion of it is carried out and it is outputted to a monitoring device 4.

[0070] When such viewing-and-listening actuation is performed, CPU29 performs the Favor lid guide list creation processing as shown in the flow chart of drawing 13 .

[0071] That is, the data of the channel which progressed to step S2 and was first received when it stood by until it received and a predetermined program was received, if it judged whether the tuner 21 would have received the predetermined program in step S1 and had not received, and its time of day are incorporated. The data of a receiving channel can be incorporated from the output of a tuner 21, and time-of-day data can be incorporated from the calender timer 35.

[0072] Next, it progresses to step S3, the newest Favor lid guide list of [for past 4 week] is created, and EEPROM38 is made to memorize the Favor lid guide list.

[0073] This Favor lid guide list makes a parameter for example, each day of the week and time of day, and is the list with which a user means what kind of program he was watching in each day of the week.

[0074] Drawing 14 expresses the example of this Favor lid guide list. In this example, time of day is set as the axis of ordinate by the day of the week and the axis of abscissa per 30 minutes. And the channel number of the broadcast channel to which it was viewing and listening between four weeks of past is registered in 30 minutes from the predetermined time of day of each day of the week. The number of this broadcast channel is registered in an order from what has high frequency. For example, the broadcast channel is best received in order of the 4th channel, the 10th channel, the 8th channel, and the 20th channel for 30 minutes from [on Sunday (SUN)] 0:00 to 0:30.

[0075] This data is updated by the data of the day of the week when the newest corresponds for every day of the week.

[0076] In addition, in creating this Favor lid guide list, it is also theoretically possible all the channels by which only slight time amount (for example, for several seconds) was received, and to count this as a receiving channel. However, in order to choose other broadcast channels if the broadcast channel is registered into receiving hysteresis also when time of delivery is too much short, when the broadcast channel is changed, it will be registered as that by which the intermediate broadcast channel was received. It is desirable to register only the broadcast channel which continued beyond the predetermined time amount set up beforehand, such as for example, the above for 5 minutes, and was received there as a receiving channel.

[0077] Next, a user explains the processing at the time of choosing the carbon button icon of the Favor lid guide (FAVORITE GUIDE) in which the menu shown in drawing 12 is shown by the number 8 in the condition of having made it displaying on a monitoring device 4 with reference to the flow chart of drawing 15 thru/or drawing 18 .

[0078] When starting this processing, in step S11, the carbon button icon of the Favor lid guide which a user shows to drawing 12 is chosen first. As mentioned above, this selection is performed by being carrying out ENTA actuation, after operating a handler 52 in the direction of four directions and moving highlighted cursor on the carbon button icon of the Favor lid guide expressed with a number 8.

[0079] CPU29 displays the Favor lid guide screen as progressed to step S12, for example, shown in drawing 19 on a monitoring device 4, when ordered in actuation of the carbon button icon of the Favor lid guide. This display is also performed because CPU29 controls the MPEG video decoder 25.

[0080] As shown in drawing 19 , in this example, a day of the week is perpendicularly displayed in order below from a top near the side edge section on the left-hand side of a screen. The day of the week (it sets in this example and is Friday (FRI)) of that day (current) is displayed at the bottom. Consequently, in this example, Saturday (SAT) is displayed on the top and each day of the week of a day (SUN), the moon (motor octane number), fire (TUE), water (WED), a tree (THU), and gold (FRI) is displayed in order in order of below.

[0081] Moreover, in this example, a time-axis (time of day) is displayed on the right from the left at a level with a longitudinal direction near the bottom edge of a screen. In this example, the time-axis from 7:00 to 9:30 is displayed. And along with this time-axis, the program corresponding to the receipt time of the Favor lid guide list memorized by EEPROM38 is displayed. In this example, the program which the user was watching most frequently among four weeks of the latest past is expressed as that broadcasting station name (that abbreviated name is included).

[0082] From 7:00 on Friday before 7:30 has received most broadcasts of CBS, and it means that in the case of this example the time amount from 7:30 to 8:30 has received most broadcasts of CNN, and had received most broadcasts of NBC from 8:30 till 9:30 further.

[0083] The time of day of the beginning of a time-axis is the time of day before current time, and let it be the broadcast start time of the program currently broadcast in current time. If it puts in another way, in the example of drawing 19 , current time will turn into time of day of a before [7:30] from 7:00.

[0084] In this example, Cursor A is displayed on the intersection of the shaft of a day of the week, and a time-axis, i.e., a lower left angle, at the beginning. That is, let a lower left angle be a default display position.

[0085] Moreover, in this example, the graphic form of facing up and a downward triangle is displayed on the perpendicular upper limit and perpendicular lower limit of a shaft of a day of the week, respectively, and it is suggested to them that a day of the week can be changed by rise-operating or down operating a handler 52. Similarly, the triangle which turned to the left, and the triangle which turned to the right are arranged, and it is suggested to the left end and right end of a time-axis that a time-axis can be changed by left-operating or light operating a handler 52.

[0086] Thus, since it is displayed in the shape of abbreviation for L characters near the left end and lower limit of a screen, the shaft and time-axis of a day of the week are made as [control / that the receiving image of the tuner 21 currently then displayed on the monitoring device 4 will be hidden by these days of the week and time-axes, and becomes hard to see / to the minimum], respectively.

[0087] Next, in step S13 thru/or S16, the sequential judging of whether either down actuation of a handler 52, rise actuation, ENTA actuation or escape actuation of the escape button switch 54 was made is carried out. In step S13, when judged with down actuation having been made, it progresses to step S17 and processing for which a day of the week is relatively moved upwards to Cursor A is performed.

[0088] Namely, CPU29 controls the MPEG video decoder 25, and displays an image as shown in drawing 20 on CRT4A of a monitoring device 4. In the screen of drawing 20 , as compared with the screen of drawing 19 , Cursor A is not moved in fact but the day of the week in Cursor A is changed on Saturday (SAT) from Friday (FRI) so that clearly. Namely, it is in the condition of having scrolled one step of day of the week upward.

[0089] On the other hand, in step S14, when judged with rise actuation having been made, in step S18, processing to which a day of the week is moved downward is performed. Namely, CPU29 controls the MPEG video decoder 25, and displays a screen as shown in drawing 21 on CRT4A. The screen of drawing 19 is compared with the screen of drawing 21 , and in the screen of drawing 21 , Thursday (THU) is displayed into Cursor A, and it is in the condition of having scrolled the day of the week downward by one step, in the screen shown in drawing 19 so that clearly.

[0090] It returns to step S13 after processing of steps S17 and S18.

[0091] Furthermore, when it is judged whether escape actuation was made at step S16 and it is judged with escape actuation not being made, return and processing after it are repeatedly performed by step S13.

[0092] That is, thereby, when only the count of predetermined performs rise actuation or down actuation, a predetermined day of the week can be displayed in Cursor A.

[0093] In addition, as shown in drawing 22 when rise actuation is made in the condition which shows in drawing 19 although the location of Cursor A is fixed above and the day of the week was scrolled up and down relatively, the cursor A itself is moved upward, a program display also moves to the upper part together at this time, and it can be made to display. However, the center section of the screen will be hidden by the program name, and an original image will become hard to see as Cursor A will be moved upward, if it does in this way. Then, as shown in drawing 19 thru/or drawing 21 , it is desirable to fix Cursor A and to scroll the day of the week itself up and down.

[0094] In the condition that Cursor A is located on a day-of-the-week shaft, if the escape button switch 54 is turned on, this will be detected at step S16 and the Favor lid guide processing will be ended.

[0095] On the other hand, when judged with ENTA actuation having been made in step S15, it progresses to step S19, and as shown in drawing 23 , Cursor A is moved on a time-axis (on a program) from the shaft of a day of the week. And in step S20 thru/or S25, it is judged whether light actuation, left actuation, rise actuation, down actuation, ENTA actuation, or escape actuation was made.

[0096] In step S20, as it progresses to step S26 when judged with light actuation having been made, and shown in drawing 24 in the condition which shows in drawing 23 , processing to which Cursor A is moved rightward is performed. This processing is also performed for CPU29 by controlling the MPEG video decoder 25.

[0097] In addition, the magnitude is not fixed but let Cursor A be the magnitude corresponding to the magnitude of the program on a time-axis.

[0098] On the other hand, in step S21, when judged with left actuation having been made in the condition which shows in drawing 23 , it progresses to step S27, and as shown in drawing 25 , Cursor A is moved leftward.

[0099] However, in the condition which shows in drawing 23 , if Cursor A is further moved to left-hand side, Cursor A will return on a day-of-the-week shaft. Then, when it is ordered so that it may move leftward further in this way, when Cursor A is located in an edge (left-hand side edge when it is now), as shown in drawing 25 , a time-axis is further moved to the last time of day. In the example of drawing 25 , the time zone from 6:00 before 7:00 to 7:00 is displayed. And in this time zone, since most broadcasts of USA were received, the name of USA is displayed on this time-axis.

[0100] A previous time zone comes to be displayed more nearly further than the time zone currently displayed till then as it was shown, for example in drawing 27 , when light actuation was carried out so that Cursor A may be further moved rightward in the condition of having moved Cursor A to the right end as light actuation was performed twice in the condition which similarly shows in drawing 23 and it was shown in drawing 26 .

[0101] Therefore, the time-axis of a predetermined time zone can be displayed on a screen by repeating left actuation or light actuation suitably by the handler 52.

[0102] In step S22, when judged with rise actuation of the handler 52 having been carried out, it progresses to step S28, and in the time zone when Cursor A is located, processing which displays a program with more much frequency is then performed.

[0103] For example, in the condition which shows in drawing 24 , if rise actuation is performed, a program with frequency higher than the program (in the case of drawing 24 CNN) as which the program of the time zone when Cursor A is located is displayed now will be displayed, as shown in drawing 28 . The broadcast channel of TBS is displayed in the example of drawing 28 . That is, it means viewing and listening to TBS by higher frequency from CNN in the time zone at these 7:30 to 8:30.

[0104] When similarly it is judged with down actuation of the handler 52 having been carried out in step S23, it progresses to step S29, and few [more / frequency] programs are displayed.

[0105] For example, in the condition which shows in drawing 24 , when down actuation is performed, the broadcast channel in the time zone at 7:30 to 8:30 when Cursor A is located is changed, as drawing 29 shows to the broadcast channel received by lower frequency. In the example of drawing 29 , it replaces with CNN and ABC is displayed. That is, it means having received many ABCs to the degree of CNN in this example.

[0106] In step S25, when judged with escape actuation having been made, it progresses to step S30, and processing for which Cursor A is moved on a day-of-the-week shaft is performed. For example, in the condition which shows in drawing 23 or drawing 24 , if the escape button switch 54 is turned on, Cursor A will be moved onto a day-of-the-week shaft, and it will return to the condition that it is shown in drawing 19 . And return and processing after it are repeatedly performed by step S13.

[0107] That is, by operating the escape button switch 54 in this way, Cursor A is returned to a day-of-the-week shaft, and the mistaken actuation is redone from the start or it becomes possible to newly set up a different day of the week.

[0108] On the other hand, when judged with ENTA actuation having been made in step S24, it progresses to step S31, and the program on the time-axis in which Cursor A is then located is once memorized by SRAM36. And highlighting of the program is carried out. For example, if ENTA actuation of the handler 52 is carried out in the condition that Cursor A is located on the program of CNN as shown in drawing 24 , as shown in drawing 30 , highlighting of the name CNN will be carried out by brighter brightness.

[0109] Furthermore, it progresses to step S32, and the list of image transcription devices (device among the AV equipments connected to this AV system 1 which can be recorded on videotape) is displayed as shown in drawing 30 . In the example of drawing 30 , WATCH, MD (mini disc equipment 9) and VHS (VCR6), and four 8mm (VCR7) kinds are displayed as a candidate of an image transcription device. And when this list changes into the condition of being displayed for the first time, the cursor B for choosing a predetermined image transcription device from this list is made as [locate / on WATCH]. That is, the default display position of Cursor B is made into a WATCH top.

[0110] Next, in step S33 thru/or S36, when it is judged whether rise actuation, down actuation, ENTA actuation, or escape actuation was made and it is judged with neither of the actuation being made, return and processing after it are repeatedly performed by step S33.

[0111] In addition, in step S13 of drawing 15 thru/or processing of S16, it is not judged whether left actuation or light actuation was made. That is, the actuation is disregarded even if these actuation is made. By this, a day of the week is chosen first, and a program will be chosen, after performing

ENTA actuation and deciding a day of the week.

[0112] Similarly, in step S33 of drawing 17 thru/or S36, it is not judged whether left actuation or light actuation was made. The actuation is disregarded even if these actuation will be made, if it puts in another way. It is because it is not necessary to move Cursor B to a longitudinal direction although the list of image transcription devices is displayed on one train and chooses an image transcription device as this shows drawing 30 .

[0113] When judged with rise actuation having been performed in step S33, it progresses to step S37, processing which operates Cursor B upward is performed, when judged with down actuation having been performed in step S34, it progresses to step S38, and processing to which Cursor B is moved downward is performed.

[0114] For example, in the condition which shows in drawing 30 , when rise actuation is performed, as Cursor B shows drawing 31 , it is indicated by migration on 8 lowermm. Of course, it is also possible to stop Cursor B substantially in this case, when four or more candidates of a list exist, and to scroll the candidate of a list downward.

[0115] Moreover, in the condition which shows in drawing 30 , if down actuation is performed 3 times, since Cursor B will move downward by three steps too, it will be in the condition that it is shown in drawing 31 .

[0116] In step S36, when judged with the escape button switch 54 having been turned on, step S30 is made to move return and Cursor A onto a day-of-the-week shaft, and return and processing after it are further repeated and performed to step S13. That is, all processings will be redone from selection processing of a day of the week in this case.

[0117] On the other hand, when judged with ENTA actuation having been performed in step S35, it progresses to step S39, and the image transcription device by which Cursor B is located is memorized by SRAM36, and highlighting of the device is carried out. For example, highlighting is carried out, while 8mm (VCR7) will be memorized as an image transcription device in the condition that Cursor B is located on 8mm if ENTA actuation is performed as shown in drawing 31 .

[0118] Next, it is judged whether the image transcription device memorized by progressing to step S40 is WATCH. When an image transcription device is not WATCH (i.e., when it is 8mm (VCR7), or VHS (VCR6) and MD (mini disc equipment 9)), it judges whether broadcast of the program which progressed to step S41 and was memorized is already started.

[0119] For example, although receiving broadcast of CNN from 7:30 to 8:30 was memorized in the condition which shows in drawing 31 In this case, the processing recorded on videotape by the image transcription device which memorized the program which the current time read from the calender timer 35 had already passed over 7:30, and progressed to step S42 and was memorized when it was the time of day before 8:30 minutes is made to start immediately. That is, processing which records the program currently broadcast in CNN by 8mm (VCR7) from current time to 8:30 is performed.

[0120] That is, CPU29 makes VCR7 of 8mm method supply the recovery output via VCR6 and a monitoring device 4 through AV Rhine 11 while it controls a tuner 21 and makes CNN receive. Moreover, CPU29 outputs the request signal of initiation of an image transcription to VCR7 through the control line 12 at coincidence. When supply of this request signal is received, the microcomputer 99 of VCR7 controls the record playback block 97, and makes image transcription actuation start. Thereby, the program of CNN which did selection assignment is recordable.

[0121] On the other hand, when judged with broadcast of a program not being started yet in step S41, reservation processing for recording on videotape to the image transcription device which memorized the program progressed and memorized to step S43 is performed. That is, when the time of day at 7:30 comes, the program of CNN is received and it receives till 8:30, and CPU29 is registered during the timed recording list of SRAM36 so that this may be made to record on VCR7 of 8mm method. CPU29 makes that timed recording processing start, when it detects that the calender timer 35 reached at the time of day registered into this image transcription reservation list.

[0122] [when it is judged with WATCH having been specified as a candidate of the image transcription device of the list of image transcription devices in step S40 on the other hand] Broadcast of the program specified using Cursor A at step S31 is already started, it progresses to step S44, it judges whether it has ended yet and is already started, when judged with having not ended yet, it progresses to step S45, and the program is made to receive immediately. Namely, CPU29 controls a tuner 21, makes the specified program receive, and is displayed on a monitoring device 4.

[0123] On the other hand, in step S44, when judged with broadcast of the specified program not being started yet, it progresses to step S46, and reservation registration of the program is carried out at SRAM36.

[0124] In this case, when the time of day which the calender timer 35 outputs detects having reached at the time of day registered into SRAM36, after that and CPU29 make the program registered into the tuner 21 by that reservation list receive, and are outputted and displayed on a monitoring device 4.

[0125] In this example, although the list of image transcription devices is displayed as shown in drawing 30 when ENTA actuation is carried out and a predetermined program is chosen, Cursor B is arranged as a display position of a default then in the location which specifies WATCH. Therefore, it does not record on videotape, but in order that only the only seen case may decide a program, after performing ENTA actuation once, if ENTA actuation is carried out further once again continuously, since Cursor B is located on WATCH, it can complete reservation quickly.

[0126] In addition, in the above example, although indicated all of seven days of the week, as shown, for example in drawing 32 , it is also possible to display only one chosen day of the week. If it does in this way, it will become possible to make still smaller the range in which an original display image is hidden.

[0127] However, also in this case, although illustration is not carried out, a day of the week shall exist perpendicularly and the day of the week in Cursor A can be changed at a predetermined day of the week by performing rise actuation or down actuation.

[0128] Moreover, in the above example, although a program is specified, it was made to display under the name of the broadcasting station which is broadcasting the program (for an abbreviated name to be included), but as shown, for example in drawing 33 , it can display under the name of a program.

[0129] Drawing 34 expresses other examples of a configuration of a remote commander 5. In this example, it replaces with the handler 52 in drawing 4 , and the rise button switch 161, the down button switch 162, the left button switch 163, and the direction button switch 160 that consists of a light button switch 164 are formed. By operating either of these button switches, the direction of either of vertical and horizontal can be operated. Moreover, the ENTA (ENTER) button switch 165 is formed, and when performing ENTA actuation, it is made as [operate].

[0130] As shown in drawing 34 , when it constitutes a remote commander 5, the interior is constituted as shown in drawing 35 . As compared with drawing 10 , this drawing 35 is considered as the configuration to which the variable resistors 64 and 65 in drawing 10 , a switch 66, and A/D converters 77 and 78 were abbreviated in this example so that clearly. That is, in this example, that actuation is detected by the button switch matrix 82 like [the direction button switch 160 and the en turbo tongue switch 165] other button switches.

[0131] As mentioned above, satellite broadcasting service is received for this invention, and although the case where it applied to IRD2 to decode was explained as an example, this invention can be applied also in a television receiver or VTR.

[0132]

[Effect of the Invention] Since the past receiving hysteresis is memorized and the program corresponding to the receiving hysteresis was displayed along with the time-axis like the above according to the program selected system of this invention, it becomes possible to choose and specify a desired program quickly and certainly out of the program which he comparatively often watches.

[Translation done.]

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3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the perspective view showing the example of AV structure of a system adapting the program selected system of this invention.
[Drawing 2] It is the block diagram showing the electrical installation condition of AV system of drawing 1 .
[Drawing 3] It is the block diagram showing the example of a configuration inside [of drawing 1] IRD2.
[Drawing 4] It is the top view showing the configuration of the top face of the remote commander 5 of drawing 1 .
[Drawing 5] It is the perspective view showing the example of a configuration of the small stick controller which detects actuation of the handler 52 of drawing 4 .
[Drawing 6] It is the perspective view showing the configuration inside the example of drawing 5 .
[Drawing 7] It is the front view showing the configuration of the example of drawing 6 .
[Drawing 8] It is the right side view showing the configuration of the example of drawing 6 .
[Drawing 9] It is the top view showing the configuration of the example of drawing 6 .
[Drawing 10] It is the block diagram showing the example of a configuration inside the remote commander 5 of drawing 4 .
[Drawing 11] It is the block diagram showing the example of a configuration of VCR7 of drawing 1 .
[Drawing 12] It is drawing showing the example of a display of a menu screen.
[Drawing 13] It is the flow chart which shows the Favor lid guide list creation processing which CPU29 of drawing 3 performs.
[Drawing 14] It is drawing showing the contents of the Favor lid guide list.
[Drawing 15] It is a flow chart explaining processing of the Favor lid guide which IRD2 of drawing 3 performs.
[Drawing 16] It is a flow chart following drawing 15 .
[Drawing 17] It is a flow chart following drawing 16 .
[Drawing 18] It is a flow chart following drawing 17 .
[Drawing 19] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 20] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .

[Drawing 21] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 22] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 23] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 24] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 25] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 26] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 27] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 28] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 29] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 30] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 31] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 32] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 33] It is drawing showing the example of the display screen explaining the processing shown in the flow chart of drawing 15 thru/or drawing 18 .
[Drawing 34] It is the top view showing other examples of a configuration of the remote commander 5 of drawing 1 .
[Drawing 35] It is the block diagram showing the configuration inside the remote commander 5 of drawing 34 .
[Description of Notations]
1 AV System
2 IRD
3 PARABONA Antenna
4 Monitoring Device
4A CRT
5 Remote Commander
6 VCR(VHS)
7 VCR(8mm)
8 Multiple Disk Player
9 Mini Disc Equipment
21 Tuner
23 Error Correction Circuit
24 Demultiplexer
25 MPEG Video Decoder
26 MPEG Audio Decoder
27 NTSC Encoder
29 CPU
35 Calender Timer
36 SRAM

38 EEPROM
39 IR Receive Section
50 Button Switch
52 Handler
53 Menu Button Switch
54 Escape Button Switch

[Translation done.]

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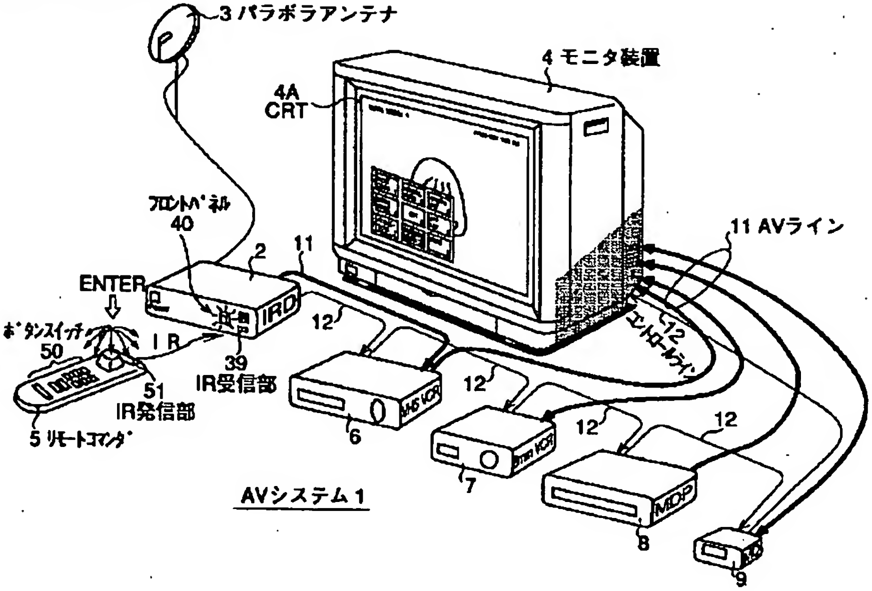
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]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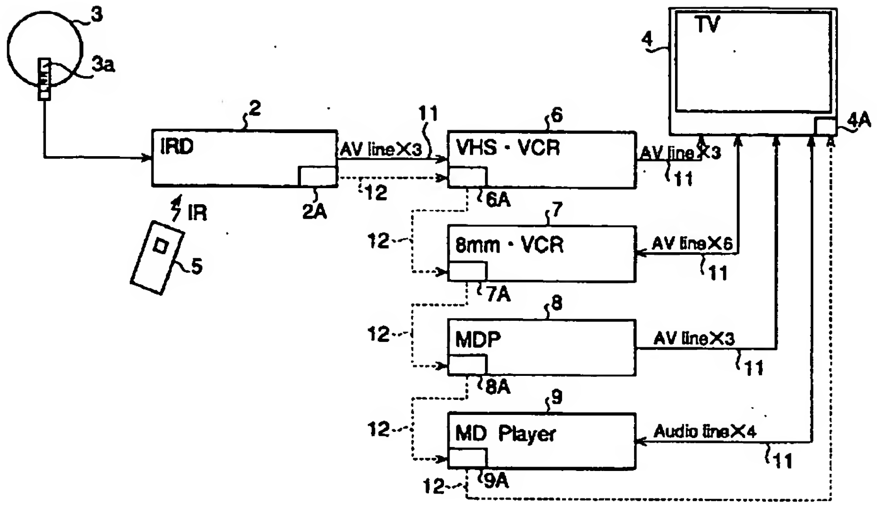
4 モニタ装置
4A CRT
フロントパネル 40
2
11
11 AVライン
ENTER
IRD
ボタンスイッチ 50
I R
12
39 IR受信部
51 IR発信部
5 リモートコマンダ
12
コントロールライン
VHS VCR
6
12
12
12
8mm VCR
7
MDP
8
9
AVシステム 1

[Drawing 2]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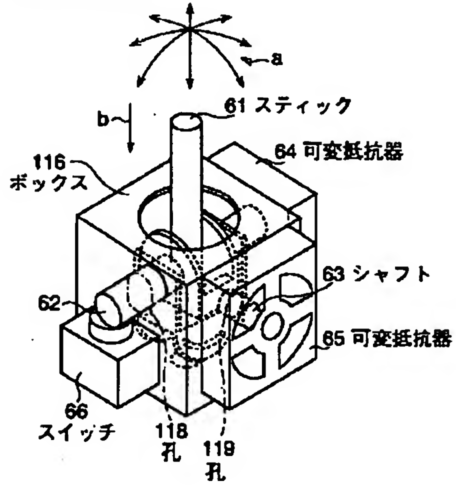
3a
2
IRD
2A
IR
5
AV line×3
11
12
6
VHS・VCR
6A
TV
4
4A
AV line×3
11
7
8mm・VCR
7A
12
AV line×6
11
8
MDP
8A
12
AV line×3
11
9
MD Player
9A
12
Audio line×4
11
12

[Drawing 5]


a
b
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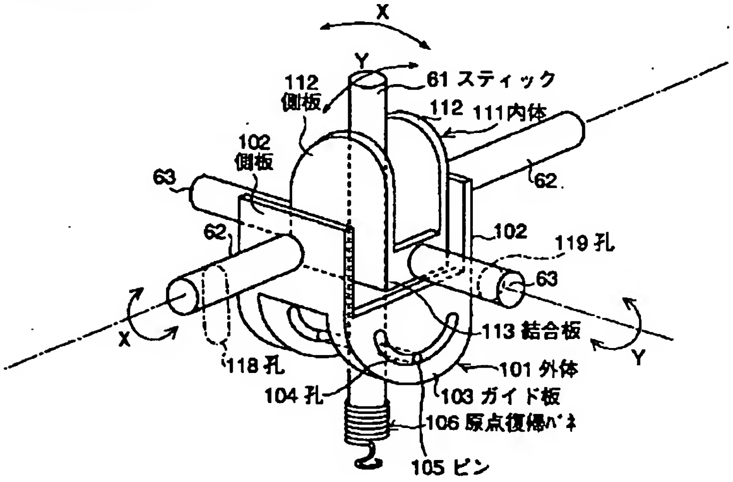
116 ボックス
64 可変抵抗器
63 シャフト
62
65 可変抵抗器
66 スイッチ
118 孔
119 孔

[Drawing 6]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Y
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112 側板
112
111 内体
102 側板
63
62
62
102
119 孔
63
113 結合板
X
Y
118 孔
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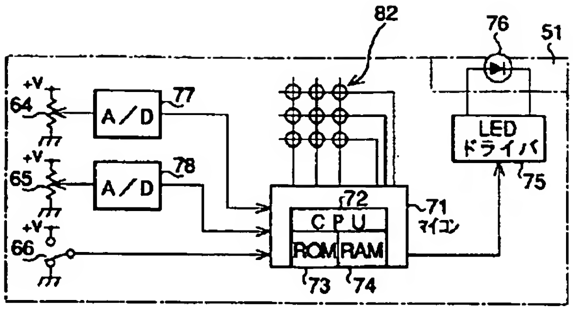
104 孔
103 ガイド板
106 原点復帰ﾊﾞﾈ
105 ピン

[Drawing 10]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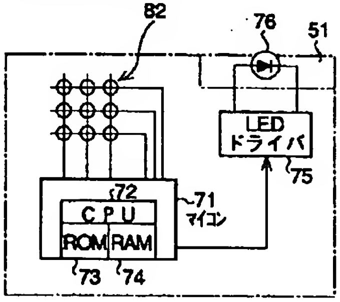
76
51
+V
64
A/D
77
+V
65
A/D
78
+V
66
LED
ドライバ
75
72
CPU
ROM
RAM
71
マイコン
73
74

リモートコマンダ5

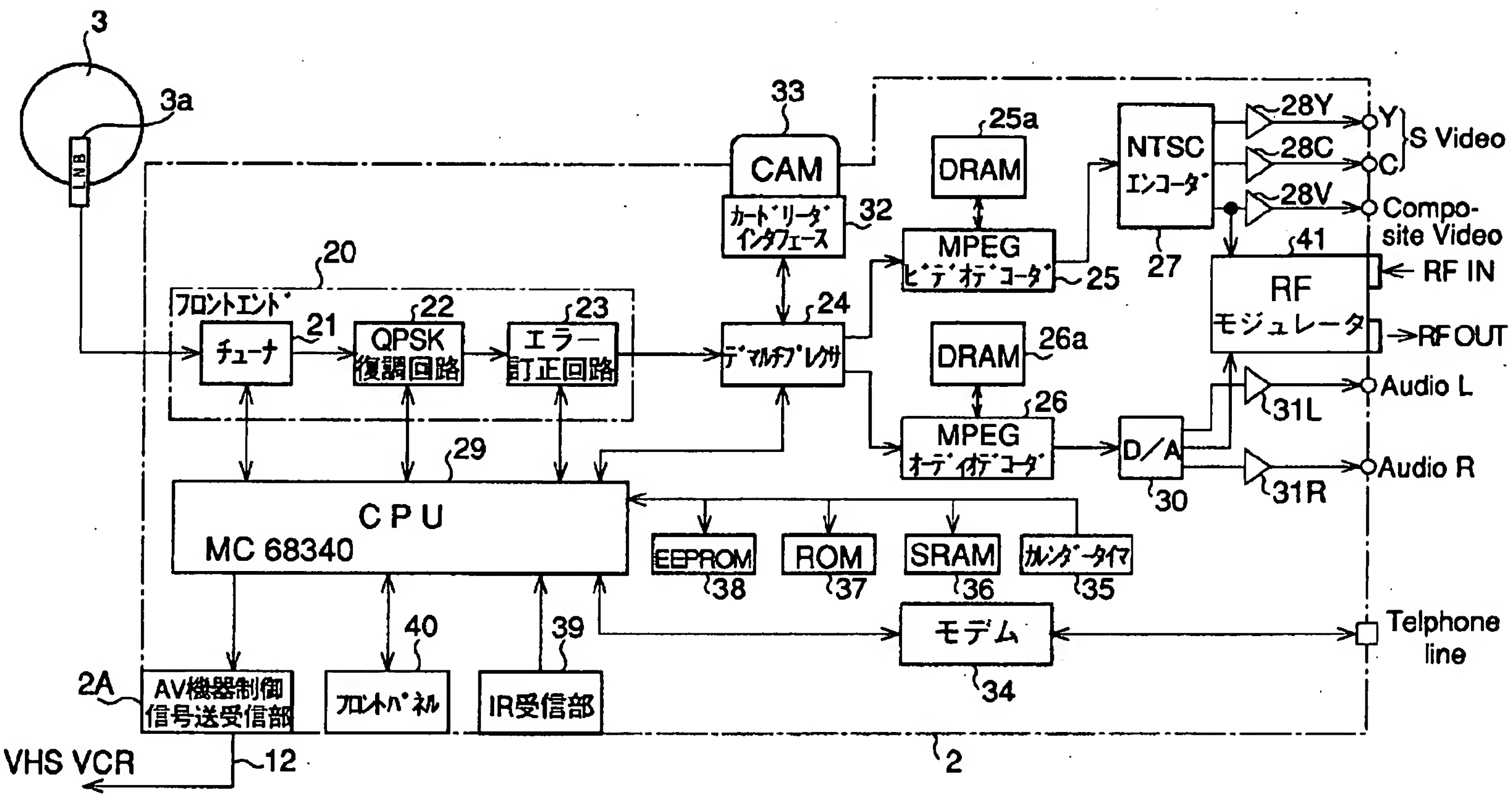
[Drawing 35]

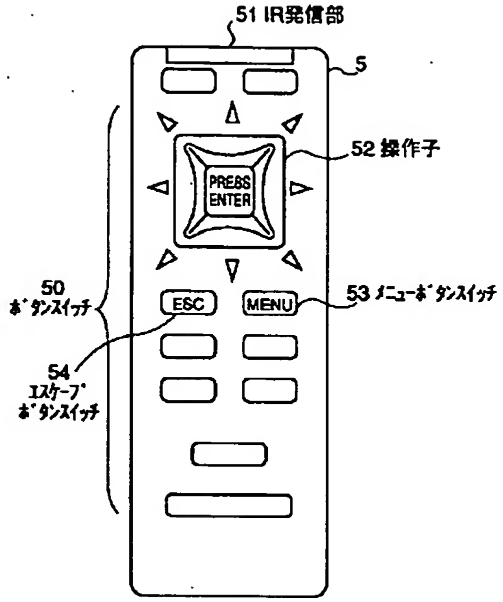

82
76
51
LED
ドライバ
75
72
CPU
ROM
RAM
71
マイコン
73
74

リモートコマンダ5

[Drawing 3]

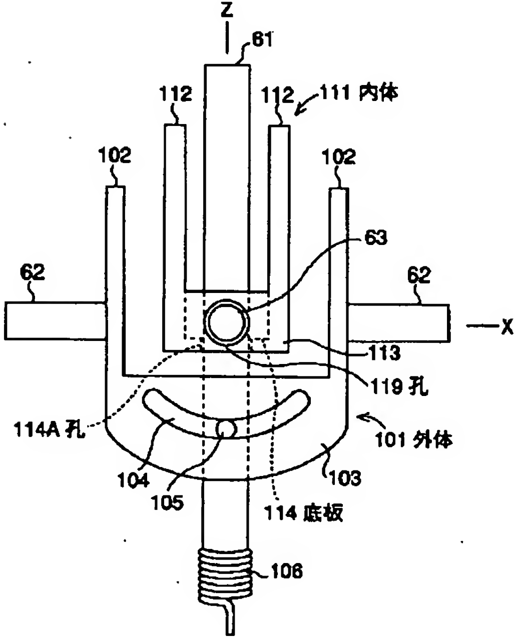
[Drawing 4]


3
3a
LNB
20
フロントエンド
21
チューナ
22
QPSK
復調回路
23
エラー
訂正回路
29
CPU
MC 68340
33
CAM
32
カードリーダ
インタフェース
24
デマルチプレクサ
25a
DRAM
MPEG
ビデオデコーダ
25
26a
DRAM
26
MPEG
オーディオデコーダ
NTSC
エンコーダ
27
28Y
28C
28V
Y
C
S Video
Composite Video
41
RF
モジュレータ
RF IN
RF OUT
D/A
30
31L
31R
Audio L
Audio R
EEPROM
38
ROM
37
SRAM
36
カレンダータイマ
35
モデム
34
Telphone line
2A
AV機器制御
信号送受信部
40
フロントパネル
39
IR受信部
12
VHS VCR
2

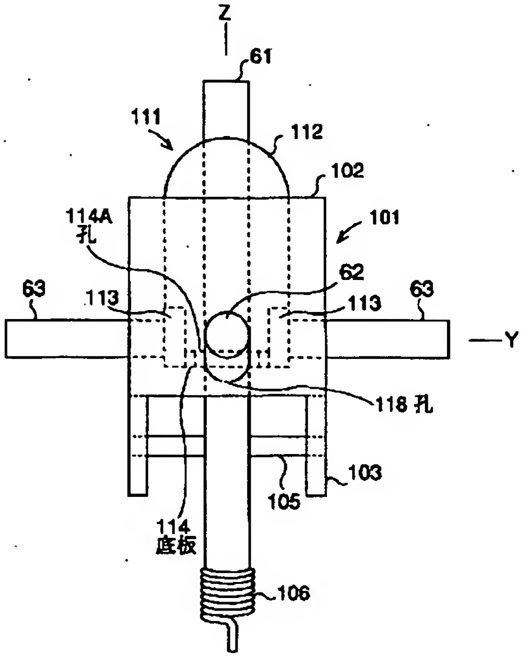

51 IR発信部
5
52 操作子
PRESS ENTER
50 ﾎﾞﾀﾝｽｲｯﾁ
ESC
MENU
53 ﾒﾆｭｰﾎﾞﾀﾝｽｲｯﾁ
54 ｴｽｹｰﾌﾟ ﾎﾞﾀﾝｽｲｯﾁ

リモートコマンダ5

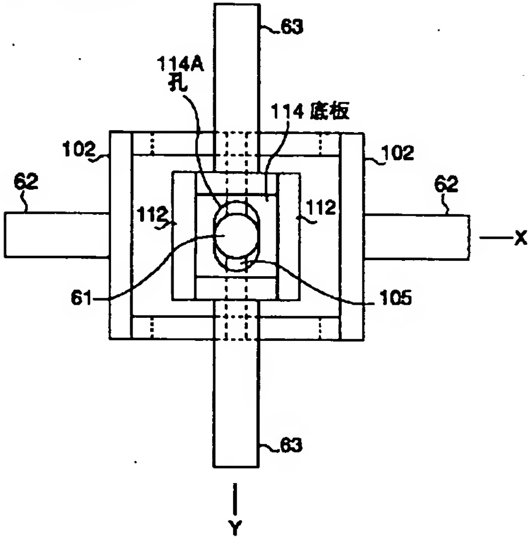
[Drawing 7]


Z
61
112
112
111 内体
102
102
63
62
62
X
113
119 孔
114A 孔
101 外体
104
105
103
114 底板
106

[Drawing 8]

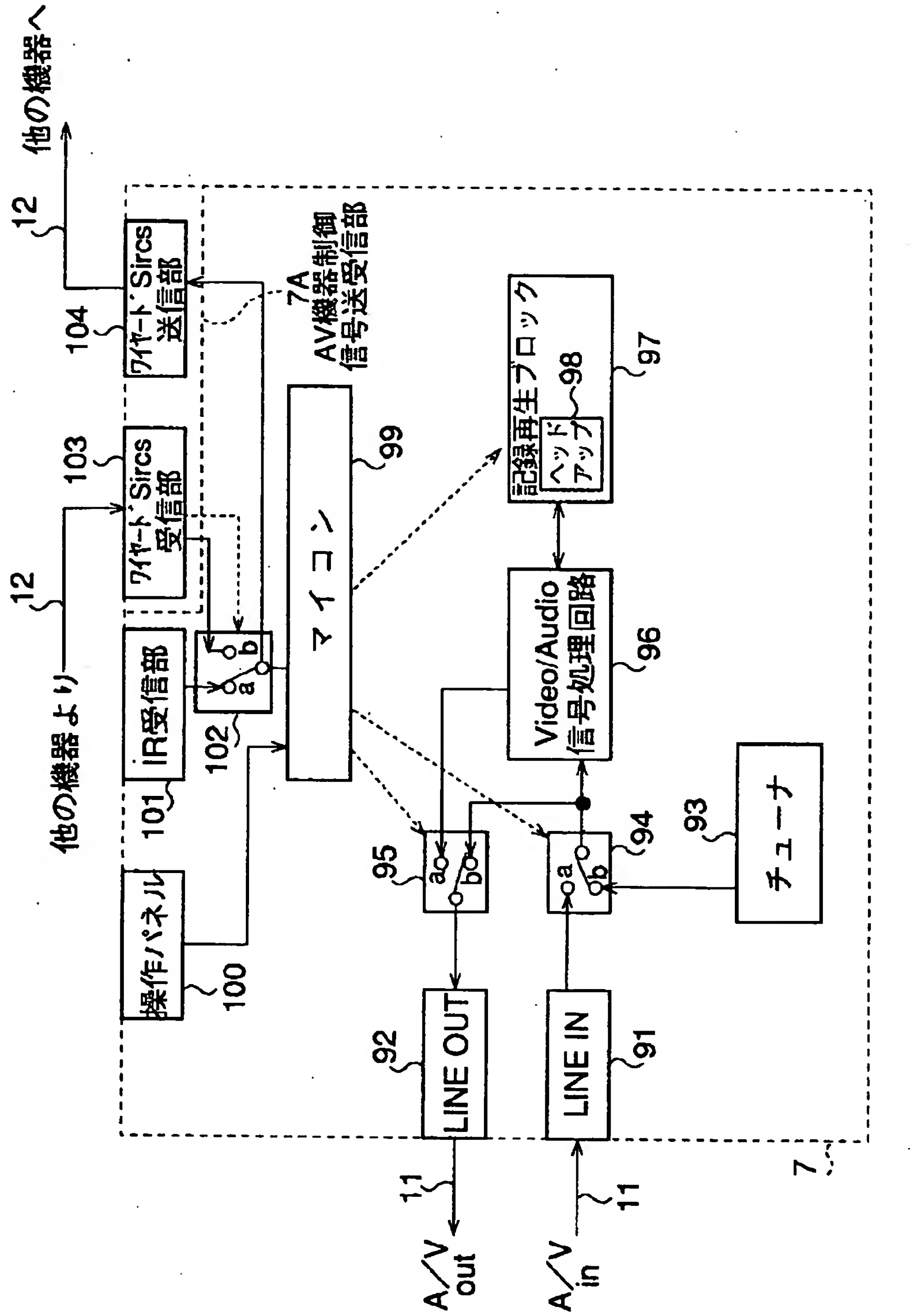

Z
61
111
112
102
101
114A
孔
62
63
113
113
63
Y
118 孔
103
105
114
底板
106

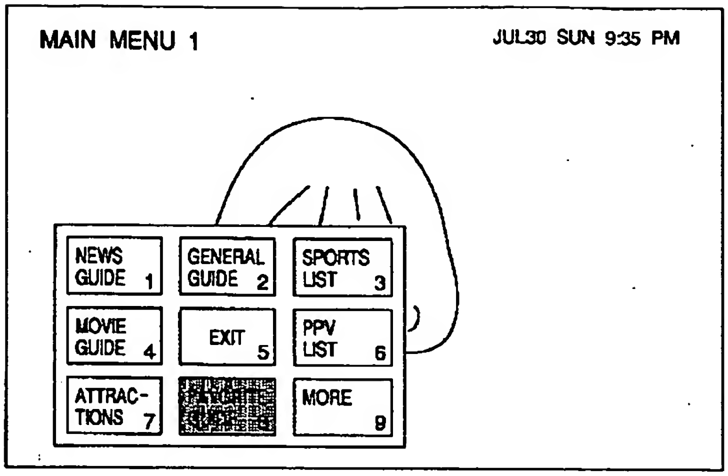
[Drawing 9]


63
114A
孔
114 底板
102
102
62
62
112
112
X
61
105
63
Y

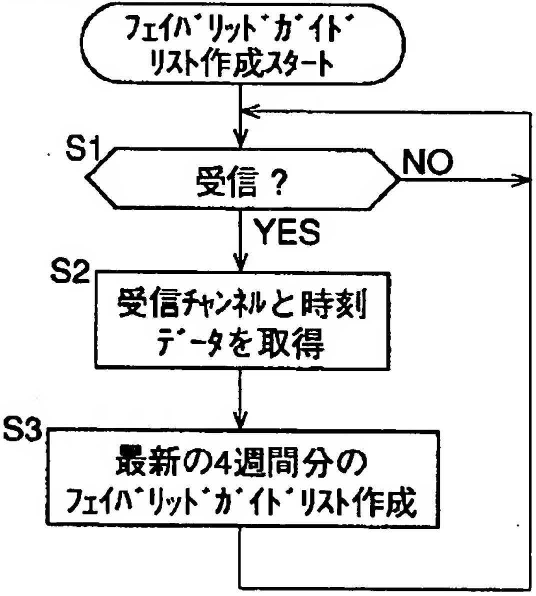
[Drawing 11]

[Drawing 12]


他の機器へ
12
ワイヤード Sircs 送信部
104
7A
AV機器制御信号送受信部
12
他の機器より
ワイヤード Sircs 受信部
103
IR受信部
101
a
b
102
操作パネル
100
マイコン
99
記録再生ブロック
ヘッドアップ
98
97
Video/Audio 信号処理回路
96
95
a
b
94
a
b
93
チューナ
LINE OUT
92
LINE IN
91
11
A/V out
11
A/V in
7


MAIN MENU 1
JUL30 SUN 9:35 PM
NEWS GUIDE 1
GENERAL GUIDE 2
SPORTS LIST 3
MOVIE GUIDE 4
EXIT 5
PPV LIST 6
ATTRAC-TIONS 7
MORE 9

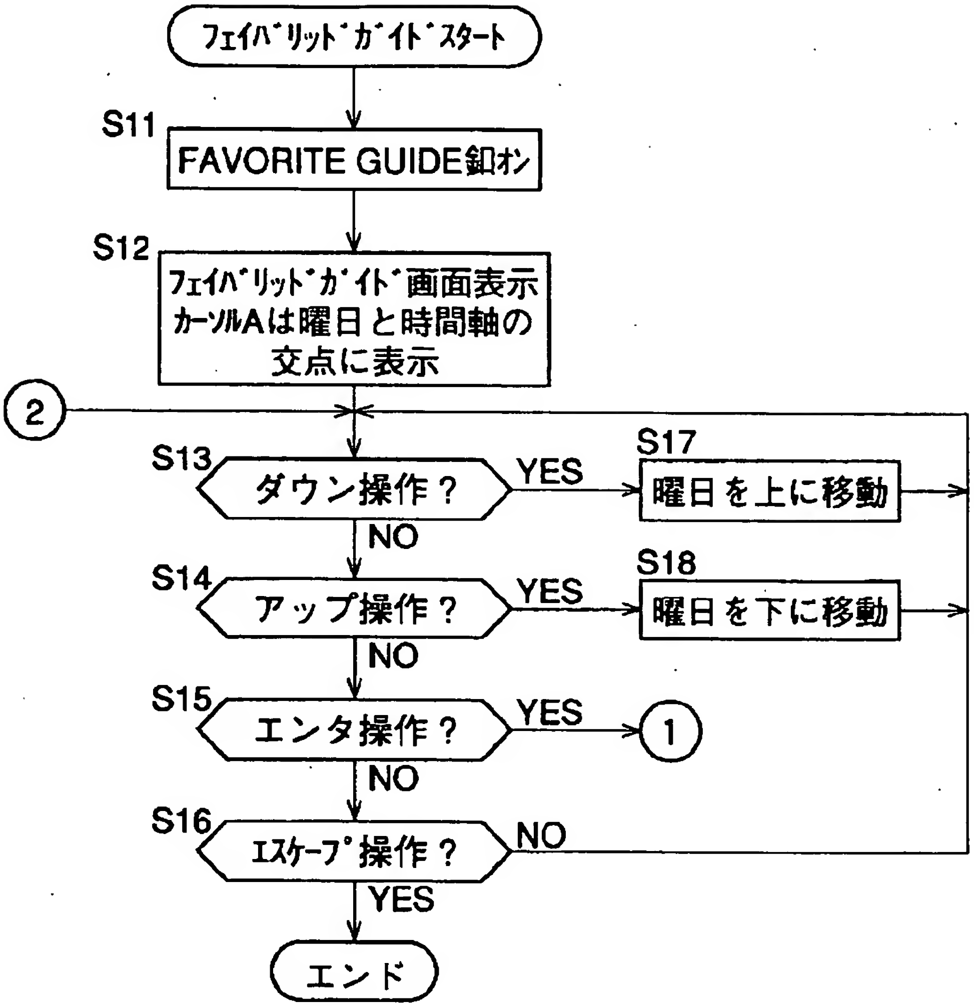
[Drawing 13]


ﾌｪｲﾊﾞﾘｯﾄﾞｶﾞｲﾄﾞ
ﾘｽﾄ作成ｽﾀｰﾄ
S1
受信？
NO
YES
S2
受信ﾁｬﾝﾈﾙと時刻
ﾃﾞｰﾀを取得
S3
最新の4週間分の
ﾌｪｲﾊﾞﾘｯﾄﾞｶﾞｲﾄﾞﾘｽﾄ作成

[Drawing 14]

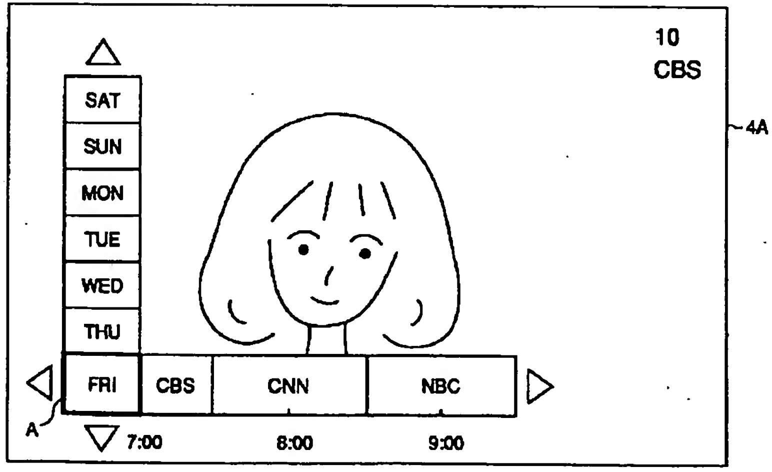
曜日	時刻			
	0:00	0:30	1:00	1:30
SUN	4, 10, 8, 20 …	3, 15, 6, 8, …	4, 10, 30, …	10, 8, 45, …
MON	60, 19, 13, …	13, 60, 50, …	8, 7, 5, …	11, 95, 38, …
TUE	41, 53, 59, …	69, 88, 17, …	8, 7, 5, …	11, 100, 141, …
WED	99, 86, 73, …	41, 44, …	41, 44, …	56, 58, …
THU	99, 86, 88, …	99, 87, 88, …	41, 60, …	58, 56, …
FRI	121, 131, …	150, 149, …	66, 69, …	81, 88, …
SAT	36, 37, …	93, 95, …	100, 101, …	1, 25, …

[Drawing 15]
(15—1)



ﾌｪｲﾊﾞﾘｯﾄﾞｶﾞｲﾄﾞｽﾀｰﾄ
S11
FAVORITE GUIDE釦ｵﾝ
S12
ﾌｪｲﾊﾞﾘｯﾄﾞｶﾞｲﾄﾞ画面表示
ｶｰｿﾙAは曜日と時間軸の
交点に表示
②
S13
ダウン操作？
YES
S17
曜日を上に移動
NO
S14
アップ操作？
YES
S18
曜日を下に移動
NO
S15
エンタ操作？
YES
①
NO
S16
ｴｽｹｰﾌﾟ操作？
NO
YES
エンド

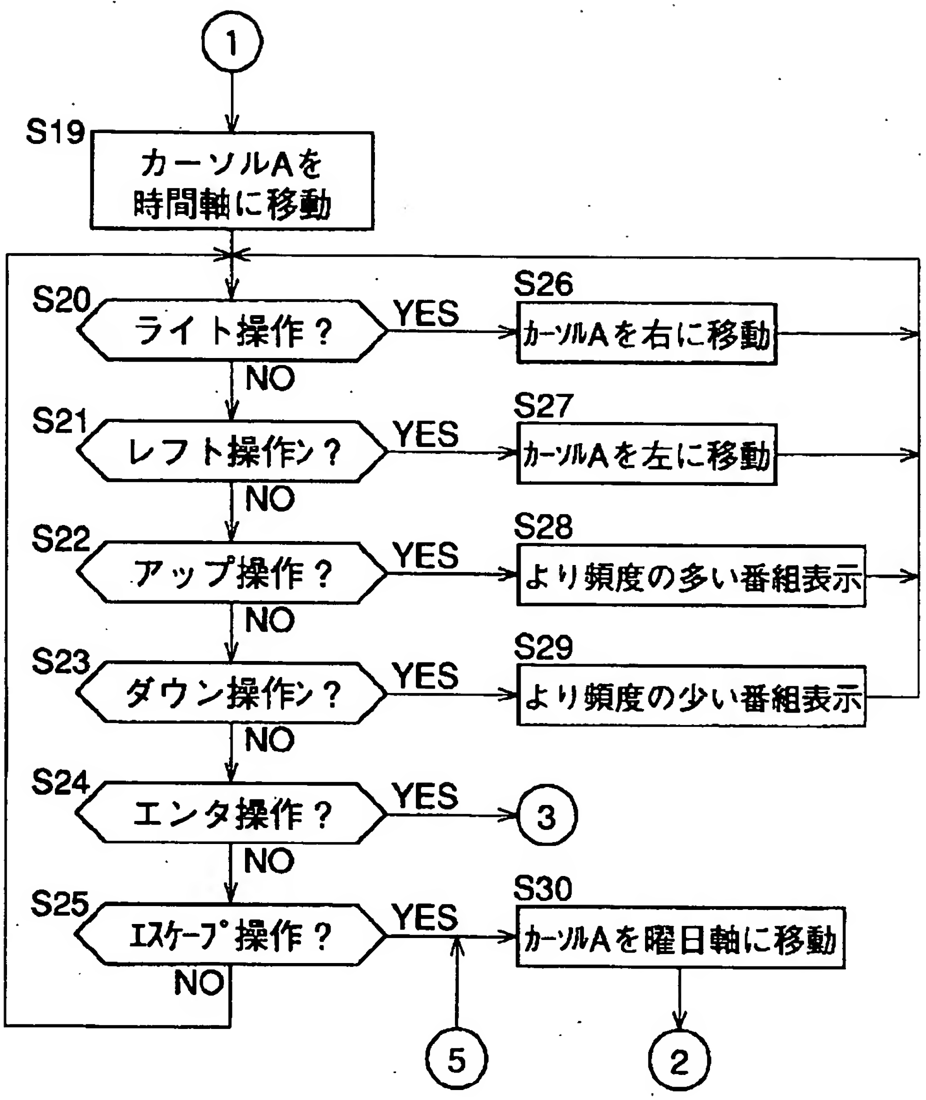
[Drawing 19]



10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
CNN
NBC
A
7:00
8:00
9:00

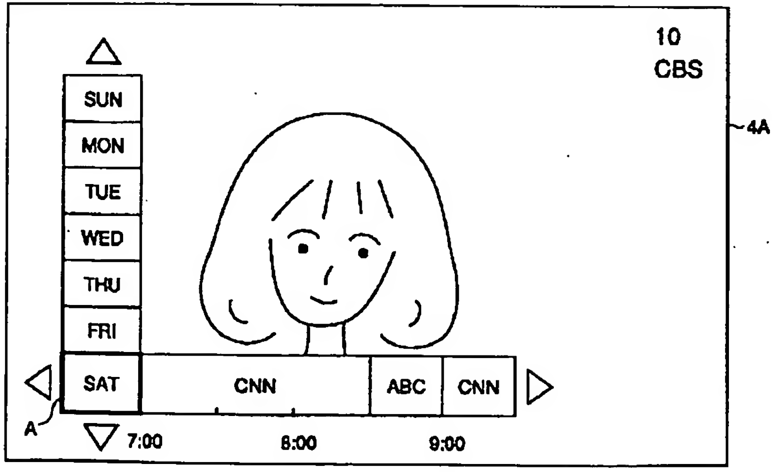
[Drawing 16]

(15—2)



①
S19
カーソルAを時間軸に移動
S20
ライト操作？
S21
レフト操作？
S22
アップ操作？
S23
ダウン操作？
S24
エンタ操作？
S25
エスケープ操作？
YES
NO
S26
カーソルAを右に移動
S27
カーソルAを左に移動
S28
より頻度の多い番組表示
S29
より頻度の少い番組表示
S30
カーソルAを曜日軸に移動
③
⑤
②

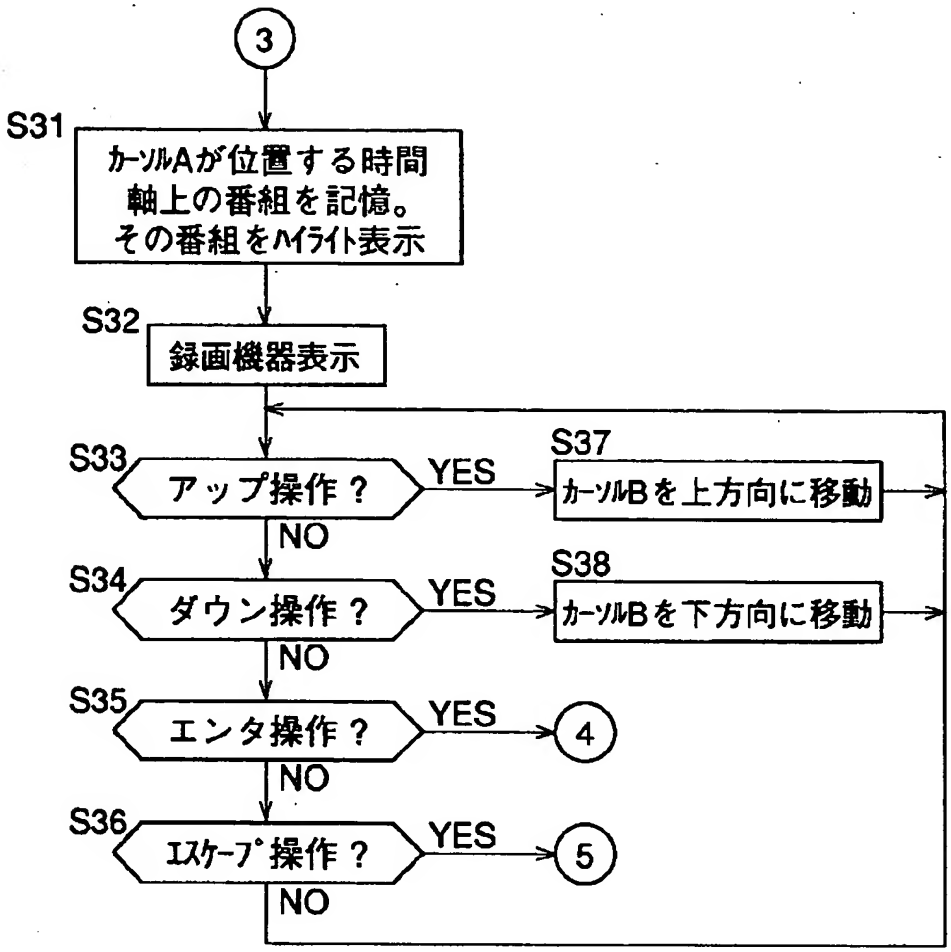
[Drawing 20]



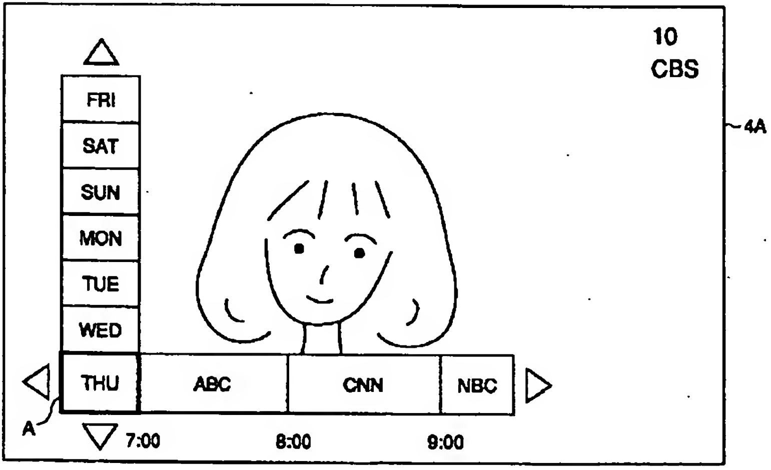
10
CBS
4A
SUN
MON
TUE
WED
THU
FRI
SAT
CNN
ABC
CNN
A
7:00
8:00
9:00

[Drawing 17]

(15−3)

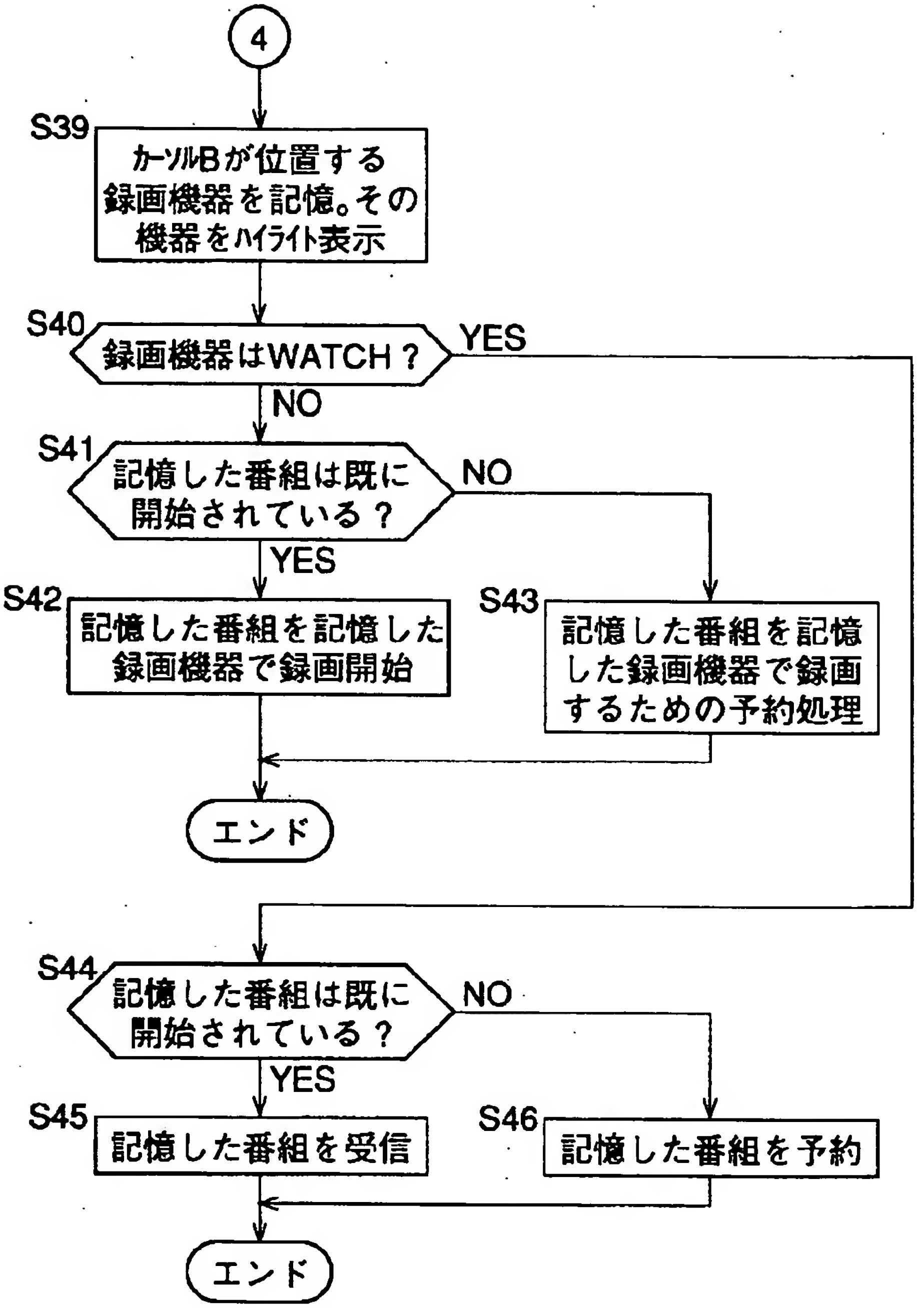

3
S31
カーソルAが位置する時間軸上の番組を記憶。その番組をハイライト表示
S32
録画機器表示
S33
アップ操作？
YES
S37
カーソルBを上方向に移動
NO
S34
ダウン操作？
YES
S38
カーソルBを下方向に移動
NO
S35
エンタ操作？
YES
4
NO
S36
エスケープ操作？
YES
5
NO

[Drawing 21]

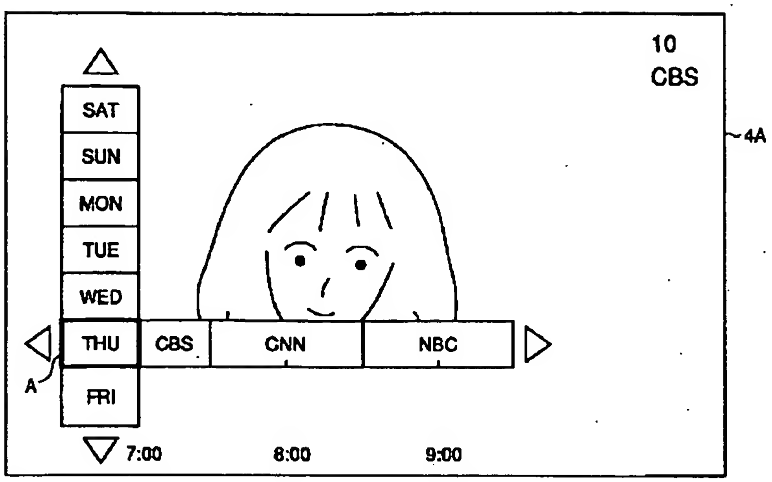

10
CBS
4A
FRI
SAT
SUN
MON
TUE
WED
THU
ABC
CNN
NBC
A
7:00
8:00
9:00

[Drawing 18]

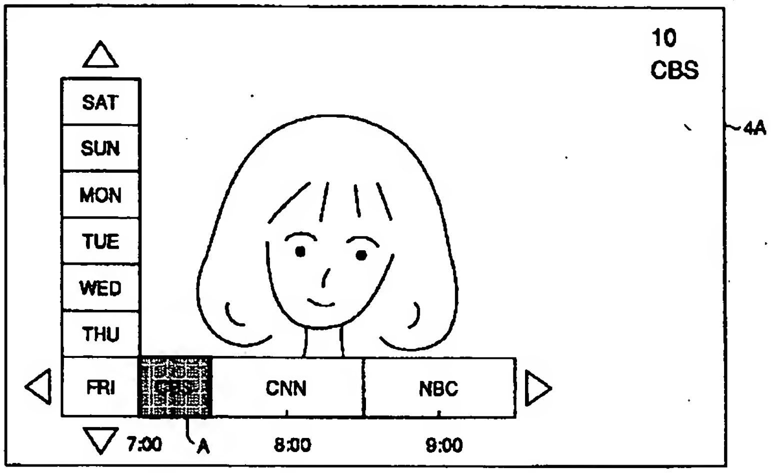
(15−4)


4
S39
カーソルBが位置する録画機器を記憶。その機器をハイライト表示
S40
録画機器はWATCH？
YES
NO
S41
記憶した番組は既に開始されている？
NO
YES
S42
記憶した番組を記憶した録画機器で録画開始
S43
記憶した番組を記憶した録画機器で録画するための予約処理
エンド
S44
記憶した番組は既に開始されている？
NO
YES
S45
記憶した番組を受信
S46
記憶した番組を予約
エンド

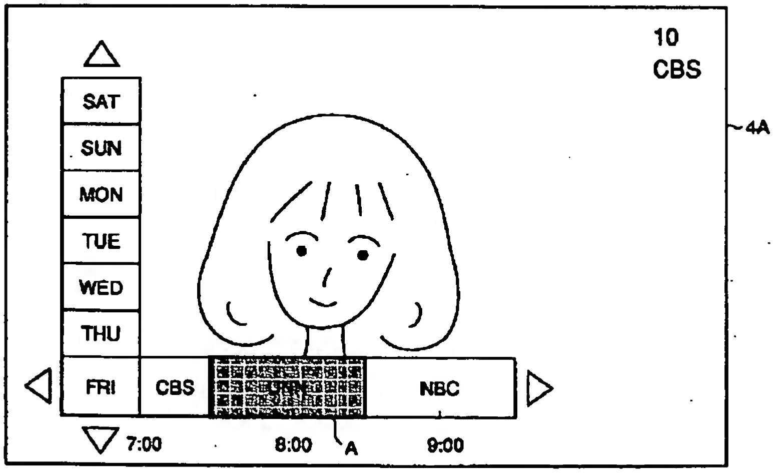
[Drawing 22]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
A
CBS
CNN
NBC
7:00
8:00
9:00

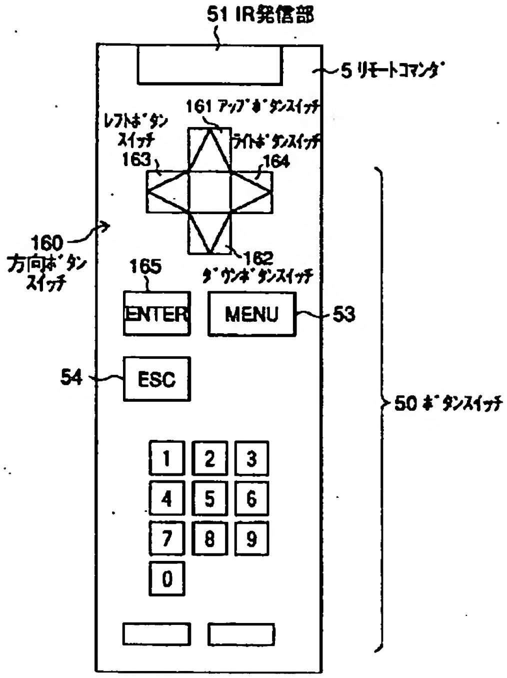
[Drawing 23]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
CNN
NBC
7:00
A
8:00
9:00

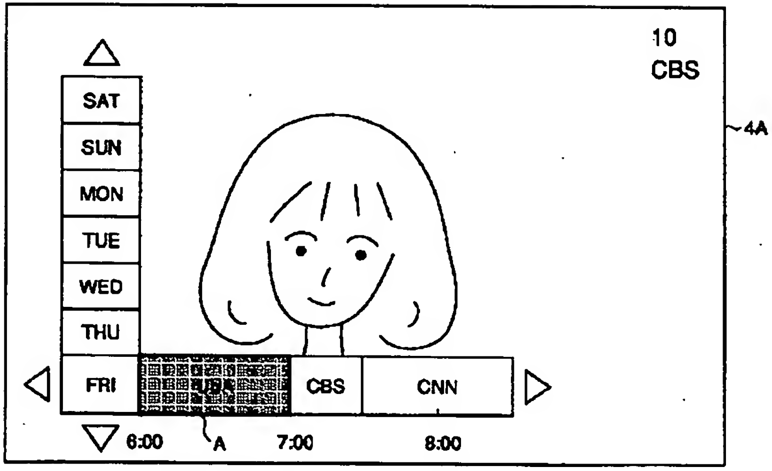
[Drawing 24]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
CNN
NBC
7:00
8:00
A
9:00

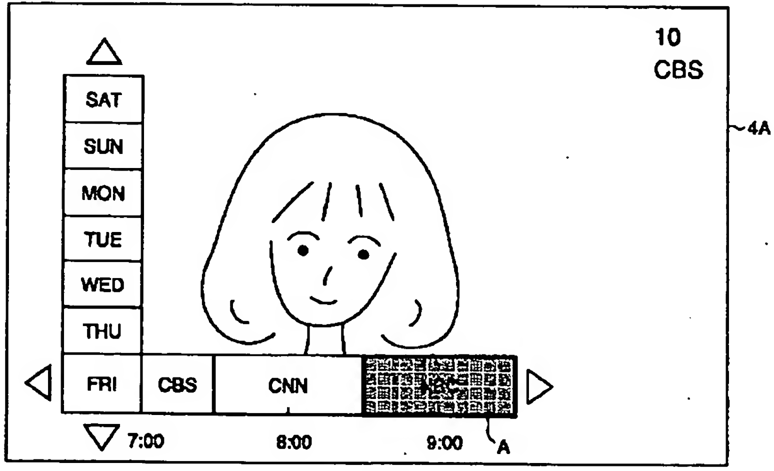
[Drawing 34]


51 IR発信部
5 ﾘﾓｰﾄｺﾏﾝﾀﾞ
161 ｱｯﾌﾟﾎﾞﾀﾝｽｲｯﾁ
ﾚﾌﾄﾎﾞﾀﾝｽｲｯﾁ 163
ﾗｲﾄﾎﾞﾀﾝｽｲｯﾁ 164
160 方向ﾎﾞﾀﾝｽｲｯﾁ
165
162 ﾀﾞｳﾝﾎﾞﾀﾝｽｲｯﾁ
ENTER
MENU
53
54
ESC
50 ﾎﾞﾀﾝｽｲｯﾁ
1
2
3
4
5
6
7
8
9
0

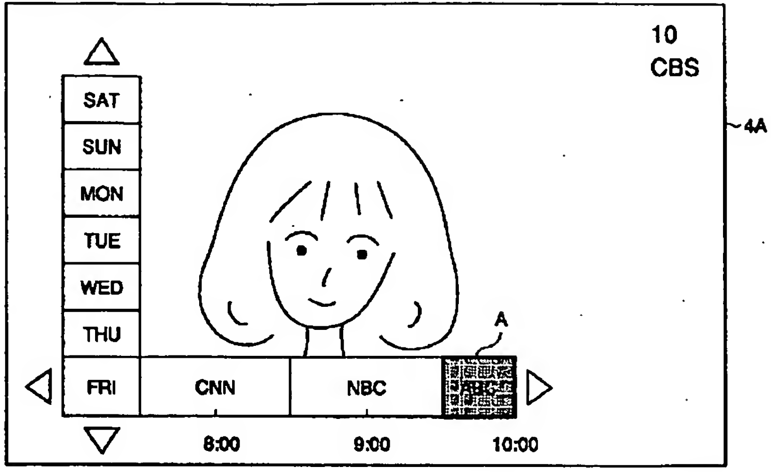
[Drawing 25]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
CNN
6:00
A
7:00
8:00

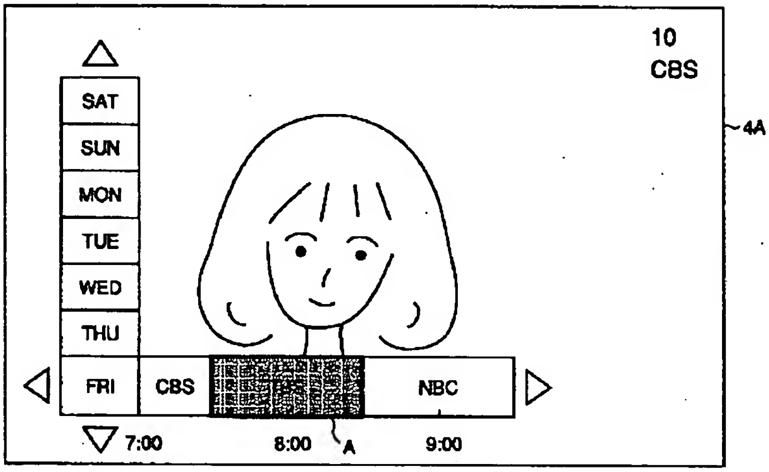
[Drawing 26]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
CNN
7:00
8:00
9:00
A

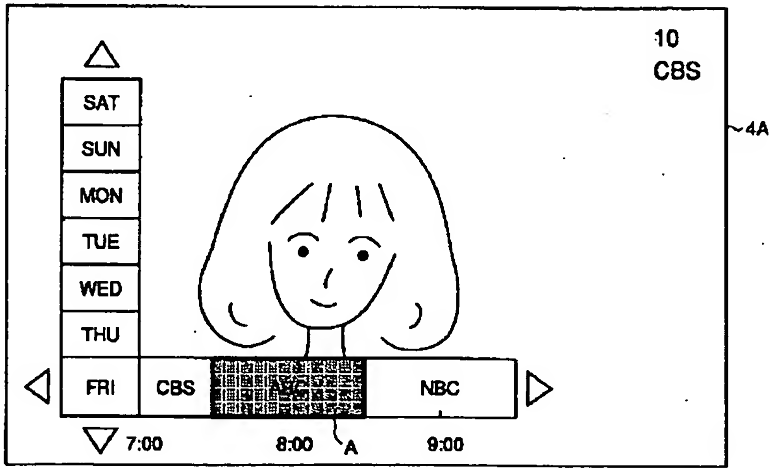
[Drawing 27]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CNN
NBC
ABC
A
8:00
9:00
10:00

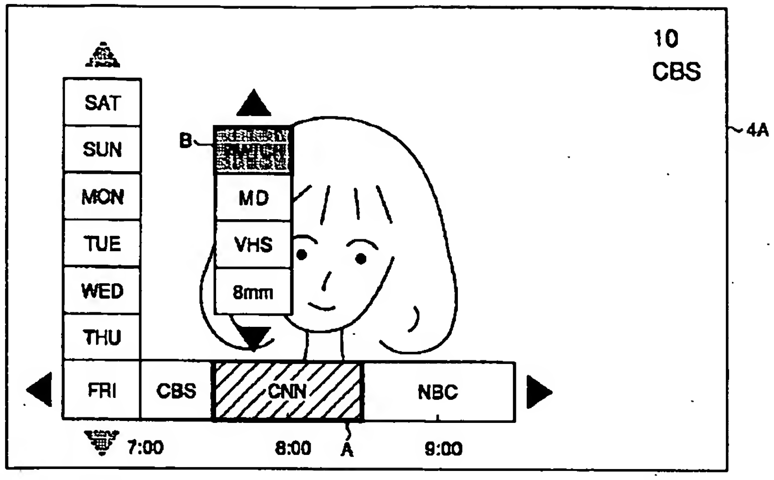
[Drawing 28]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
NBC
A
7:00
8:00
9:00

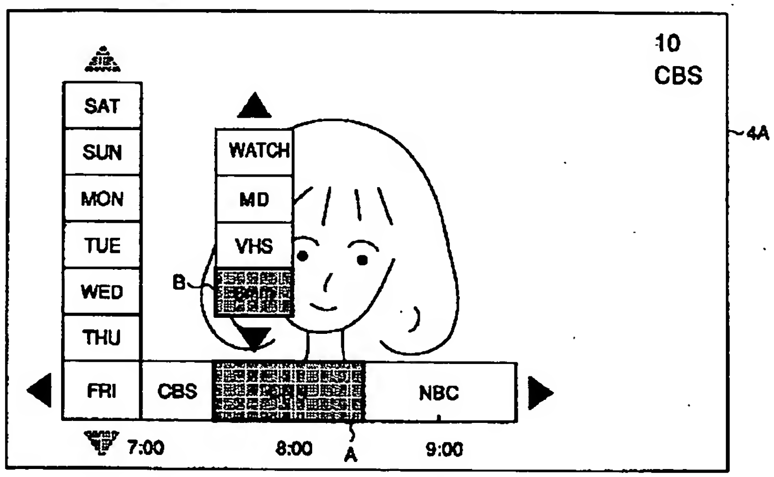
[Drawing 29]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
CBS
ABC
NBC
A
7:00
8:00
9:00

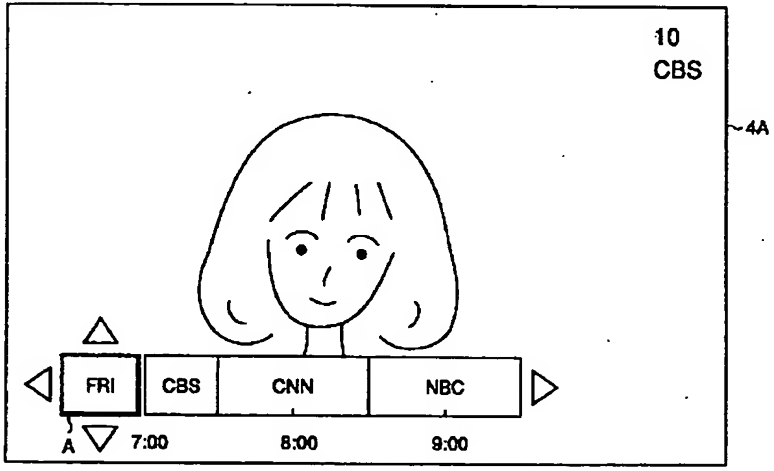
[Drawing 30]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
B
MD
VHS
8mm
CBS
CNN
NBC
7:00
8:00
A
9:00

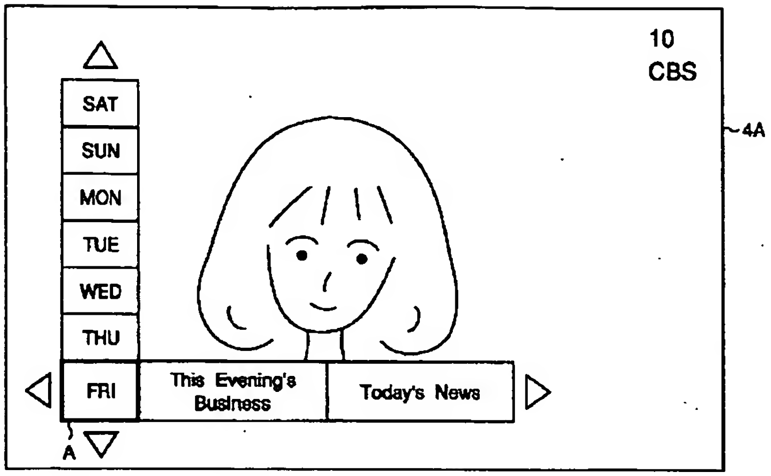
[Drawing 31]


10
CBS
4A
SAT
SUN
MON
TUE
WED
THU
FRI
WATCH
MD
VHS
B
8mm
CBS
NBC
7:00
8:00
A
9:00

[Drawing 32]


10
CBS
4A
FRI
CBS
CNN
NBC
A
7:00
8:00
9:00

[Drawing 33]


10
CBS
~4A
SAT
SUN
MON
TUE
WED
THU
FRI
This Evening's Business
Today's News
A

[Translation done.]